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# CULTURAL RESOURCE EVALUATION OF SITES 16LF19 AND 16LF261, LAFOURCHE PARISH, LOUISIANA

Final Report

April 2002

EARTH SEARCH, INC.
P.O. Box 850319
New Orleans, LA 70185-0319

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Rhonda L. Smith, R. Ezra Erb, Benjamin Maygarden

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Earth Search, Inc.
P.O. Box 850319
New Orleans, LA 70185-0319

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13. ABSTRACT (Maximum 200 words)

Earth Search, Inc. (ESI), investigated and evaluated two previously recorded sites in Lafourche Parish for National Register of Historic Places (NRHP) eligibility. Sites 16LF19 and 16LF261 are shell middens located within the Barataria Land Bridge project area as defined by Natural Resources Conservation Service (NRCS). The Barataria Land Bridge project and others are intended to reduce marsh erosion in the Bayou L'Ours Watershed by constructing weirs, plugging abandoned canals, and reestablishing banklines with dredge material and geo-textile fabric.

Archeological investigations at the two sites included shovel and auger tests and general surface collections. In addition to the shovel and auger tests, a 1 x 1 m test unit was excavated at 16LF261. Artifacts recovered from both sites consisted primarily of wave-washed prehistoric sherds. Intact prehistoric midden was documented at 16LF19. Scattered historic artifacts, mostly ceramics and glass, were also collected at 16LF19. No intact midden was observed at 16LF261. In addition to prehistoric sherds at 16LF261, some wave-washed vertebrate faunal material was collected. Based on the presence of intact midden and the likelihood for additional cultural features, site 16LF19 is eligible for nomination to the National Register of Historic Places (NRHP). No intact midden or cultural deposits were observed within the tested portion of 16LF261. It is possible that intact midden exists at 16LF261, but is protected by a high ridge of dredge spoil. That part of 16LF261 which has been tested is ineligible for nomination to the NRHP. Untested portions of 16LF261 are potentially eligible pending further investigations.

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# CHAPTER 1
# INTRODUCTION

This report presents the results of a NRHP eligibility assessment at two previously recorded shell midden sites in the Bayou L'Ours Watershed, Lafourche Parish, Louisiana. These investigations were conducted by Earth Search, Inc. (ESI), in order to fulfill the responsibilities of the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), as required by law and regulation (*viz.* National Historic Preservation Act of 1966, National Environmental Policy Act of 1969, the Archaeological and National Historic Preservation Act of 1974, and NRCS policy statement 420-GM). The Natural Resources Conservation Service has requested cultural resource support from the U.S. Army Corps of Engineers. The work performed by ESI was under contract with the U.S. Army Corps of Engineers, New Orleans District (NODCOE), Contract No. DACW29-97-D-0016.

During October 2001, ESI undertook archeological investigations at sites 16LF19 and 16LF261, located in the Barataria Land Bridge project area. This project, among others, is intended to reduce marsh erosion in the Bayou L'Ours Watershed, and involves the construction of weirs, plugging abandoned oil-field canals, and reestablishing banklines with dredge material and geo-textile fabric. Site 16LF19 is located on the northern shoreline of Little Lake and 16LF261 is along the western shoreline of Bayou Perot (Figure 1).

Prior to beginning fieldwork, a literature search and records review was undertaken. Background research included a review of available geomorphic data and an examination of the site forms and technical reports on file at the Louisiana Division of Archaeology in Baton Rouge, Louisiana. Previous investigations by Perrault and Pearson (1994) and Dawdy et al. (1995) were utilized extensively to minimize duplication of work both in terms of research and fieldwork.

Archeological investigations at the two sites consisted of shovel and auger tests and general surface collections. Intact midden was documented in some of the auger tests at 16LF19. Based on the presence of this midden and the possibility of intact features, site 16LF19 is eligible for nomination to the National Register of Historic Places (NRHP). At 16LF261, a 1 x 1 m test unit was excavated in addition to the shovel and auger tests. No intact midden or cultural deposits were observed within the tested portion of 16LF261. It is possible that intact midden exists at 16LF261, but is protected by a high ridge of dredge spoil. That part of 16LF261 which has been tested is ineligible for nomination to the NRHP.

## Report Organization

Chapter 2 provides description of the environmental setting of the area. Summaries of the prehistoric and historic occupations of the area are presented in Chapters 3 and 4. Chapter 5 provides discussions of previous investigations undertaken in the vicinity of the project area. The results of archeological investigations are detailed in Chapter 6. Conclusions and recommendations are presented in Chapter 7.

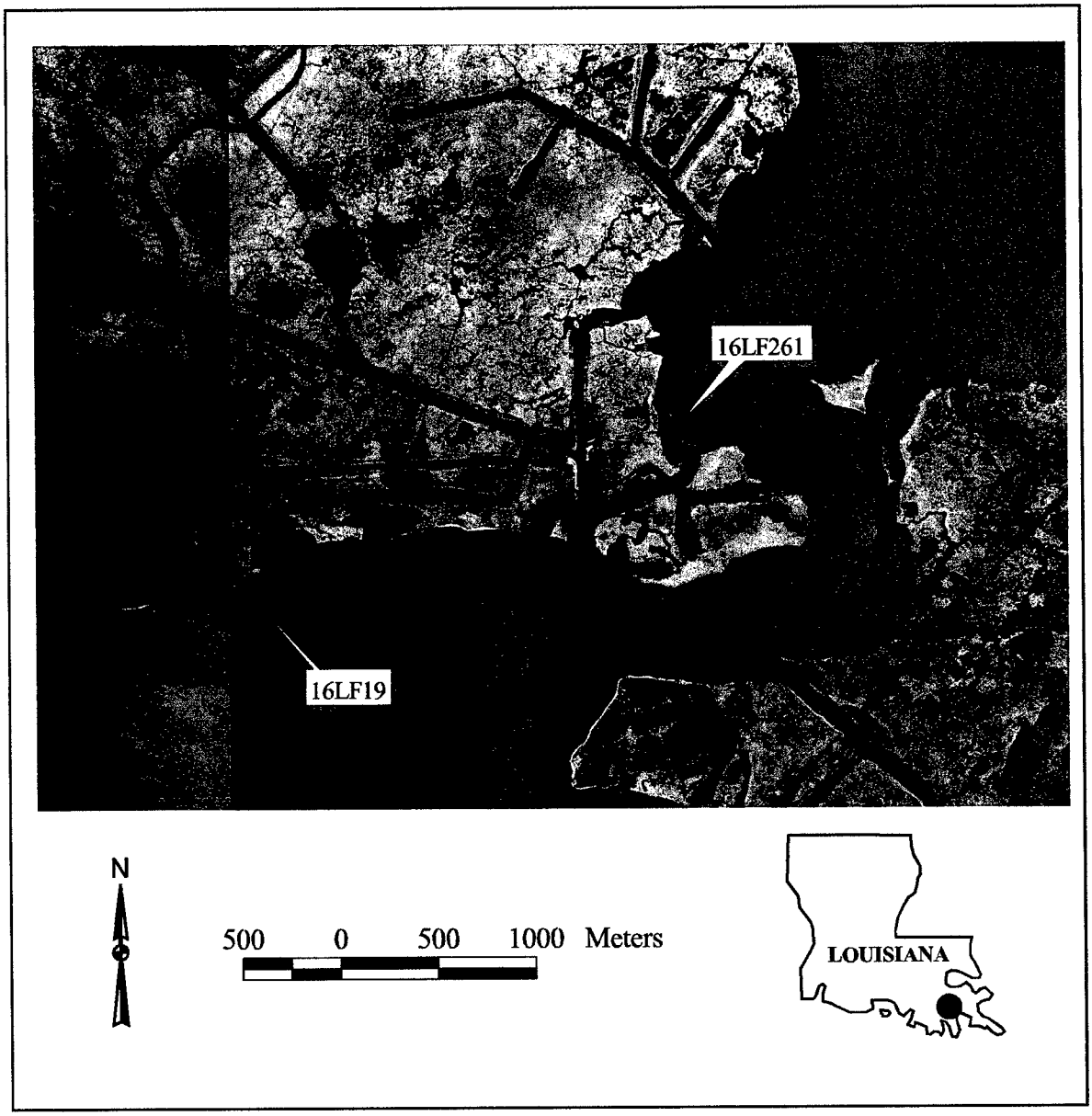


Figure 1. Excerpt from color infrared orthophotos, NE and NW quadrants of Bay L'Ours Quadrangle, LA, LOSCO (1999) showing the locations of 16LF19 and 16LF261.

# CHAPTER 2
# ENVIRONMENTAL SETTING

## Introduction

The Bayou L'Ours Watershed lies within the western portion of Barataria Basin. Located in the east-central section of Lafourche Parish, Louisiana, the project area is characterized as an abandoned delta complex of the Mississippi River. Such deltaic environments are geologically dynamic and ecologically diverse. That portion of the project area in which archeological investigations were conducted consists of the western shore of Bayou Perot and the northern shore of Little Lake.

## Physical Setting

The Barataria Basin is an enclosed basin with its apex approximately at Donaldsonville (Adams et al. 1976:3). The basin widens toward the coast, with Bayou La Fourche and Belle Pass forming the western boundary, and the Mississippi River and Red Pass forming the eastern boundary. It encompasses approximately 400,000 hectares (990,000 acres) and is about 129 kilometers (80 miles) long. Bahr and Hebrard (1976:1) state, "This broad, low-lying region, representing the most recently abandoned Mississippi River delta complex and its adjacent estuarine and offshore waters, is characterized by a set of ecological parameters that are integrated into a complex, dynamic ecosystem of enormous biological productivity."

## Local Geomorphic Setting

Mississippi River deltaic sediments have been deposited in the Bayou L'Ours area over the past 4800 years (Perrault and Pearson 1994:13). The area is marked by a bifurcating network of abandoned distributaries that radiate out from an area near the bank of the present-day Mississippi River. Upstream portions of these distributaries have been destroyed by river meandering or have been buried by more recent sediments (Britsch and Dunbar 1990:13). A series of alluvial and deltaic processes marking the creation, growth, and decline of delta lobes have created a variety of environments of deposition. These are characterized as natural levees, distributary channels, crevasse splays, inland swamps, lakes, as well as freshwater, brackish, and saline marshes.

Natural levees form when sediment suspended in flood flow is deposited adjacent to a channel. Over time, vertical accretion occurs and the resulting landform is a low, wedge-shaped ridge. The only sizable natural levees remaining in the project area are those along Bayou Lafourche and Bayou L'Ours (Perrault and Pearson 1994:5). Along smaller distributaries, only the levee crests are exposed at the surface due to subsidence and erosion (Britsch and Dunbar 1990:19).

Distributary channels are defined as "...channels that diverge from the trunk channel dispersing or 'distributing' flow away from the main course" (Britsch and Dunbar 1990:19). They originate initially as crevasse channels during periods of high flow. When floods are of sufficient duration, a permanent distributary channel is established. Abandonment of distributary channels occurs after major course shifts upstream or after crevassing occurs a short distance upstream, thereby diverting flow. During the process of abandonment, the channel base is filled with sands, silts, and organic debris. Infilling decreases flow velocities, and the result is increased infilling with clay, organic ooze, and peats (Britsch and Dunbar 1990:19-20).

Most of the project area is occupied by fresh and brackish water marshes. These are nearly flat expanse where only grasses and sedges grow. Marsh deposits are largely the result of organic sedimentation that occurs as plants die and are buried. Peats, organic oozes, and humus are deposited during this process. Although marsh deposits are subsiding, surface elevation is

maintained at a relatively constant level due to vegetative growth and sedimentation. The result is that marsh deposits thicken. If the rate of subsidence exceeds that of marsh growth, however, the surface is eventually inundated.

Numerous recent man-made channels dominate the project area. The Intracoastal Waterway forms the western portion of the project area, while multiple oil and gas field canals branch off along the shores of Bayou Perot and Little Lake. These have interrupted the natural processes of marsh build-up within the interdistributary basins that usually accompany a period of abandonment.

**Subsurface Environments of Deposition.** Sediments are deposited in low areas between active distributary channels during floods that overtop the channels' natural levees. The coarsest sediments are deposited on the natural levees, while finer-grained sediments, consisting of silty clay and clay, are carried farther away and settle out as interdistributary deposits. These deposits often grade upward into highly organic clays associated with marsh and swamp deposits.

Intradelta deposits are coarse grained sediments which occur at the mouths of distributary channels. At these locations, coarse sediments are deposited on the mouth bar crest or as fans. During progradation, the distributary cuts through or splits around the bar, after which the process is repeated in each of the smaller, branching channels. Intradelta deposits interfinger and merge with interdistributary deposits.

Prodelta deposits are the result of waves of sedimentation that preceded the seaward advances of the various delta complexes that form the Mississippi River Deltaic Plain. They lie directly on Pleistocene deposits, and underlie interdistributary and intradelta deposits. Pleistocene deposits underlie the entire project area, and were probably formed in an estuarine or nearshore-gulf depositional environment.

**Regional Geomorphic Development.** Louisiana's deltaic plain was created by progradation of a series of Mississippi River courses and deltas. The Mississippi River has repeatedly built major delta lobes, and these were subsequently abandoned. After abandonment, marine transgression occurs due to compaction and subsidence. In recent times, human activity has accelerated the rate of land loss. Previously, there was an overall gain in the size of the coastal plain in southeast Louisiana (Britsch and Dunbar 1990:25-26).

During the last 9,000 years, a series of delta complexes formed. These complexes, beginning with the oldest, were the Maringouin, Teche, Metairie, La Loutre-St. Bernard, Lafourche-Terrebonne, Plaquemine-Modern, and Balize (Weinstein and Gagliano 1985).

**Geomorphic Development of Bayou L'Ours Area.** Two delta complexes, LaLoutre and Lafourche, have been responsible for the geomorphic development of the Bayou L'Ours area. These correspond to Frazier's (1967) lobe 7 of the Bayou St. Bernard complex and lobes 10 and 15 of the Lafourche complex.

When Bayou Lafourche was a major distributary course of the Mississippi River 4,800 years ago, the project area was open water (Perrault and Pearson 1994:14). The Bayou des Familles distributary system, located to the northeast of the project area, began to actively deposit sediment in the vicinity of Bayou L'Ours around 3,500 years B.P. Evidence for this distributary system can be seen in the project area as numerous subsiding natural levees running north/south parallel to Bayou Perot and Bayou Rigolettes (Perrault and Pearson 1994:15). Infilling continued between 2,000 and 1,500 years B.P. from the west, as Bayou L'Ours and Bayou des Amoreux prograded from their source at Bayou Lafourche and began infilling a freshwater lake and embayment. Water flow and the accompanying sedimentation into both of these distributary systems (Lafourche and Bayou des Familles) began to slow around 1,500 B.P. As a result, the

freshwater areas, such as Lake Salvador, stabilized and began expanding around 1,000 B. P. (Perrault and Pearson 1994:16).

**Relationship Between Geomorphology and Human Settlement**

Saucier (1963) suggests that Native Americans in southeastern Louisiana preferred to occupy natural levees associated with channels that had already achieved maximum development. He hypothesized that the lower reaches of partially abandoned streams were desirable site locations because flood frequency was lower, fresh water was available, and the location allowed convenient access to swamps, marshes, and fresh to brackish water lakes. This observation has generally been supported by subsequent fieldwork in southeastern Louisiana (Perrault and Pearson 1994:17-18).

Subsidence and sedimentation rates are important factors for predicting the occurrence of buried sites. The north-south trending ridges in the central portion of the project along Bayou Perot are the oldest above-surface geomorphic features in the area, dating to as early as 3,500 B.P. This means that the earliest possible human occupation would date to the Poverty Point culture. Thus far, no Poverty Point sites have been identified in the area (Perrault and Pearson 1994:18). A possibility exists that these sites are present, but have been deeply buried through the process of subsidence.

However, given the observation that prehistoric groups tended to occupy natural levees soon after their stabilization, we would expect to see evidence of human habitation no earlier than 1,500 B.P. (the Baytown period), when the Lafourche and Bayou des Familles distributaries ceased to be active. As the levees subsided, they would have become less desirable settlement sites, although *Rangia* middens from earlier occupations may have provided relatively dry areas for habitation. Previous archeological investigations in the Bayou L'Ours area have so far confirmed this relationship between the distributary cycle and human settlement. Sites in the area have been dated to between 1500 and 700 B.P. (A.D. 500 to A.D. 1300) (Perrault and Pearson 1994:18-19). Perrault and Pearson (1994:31) note that older Lafourche delta complex landforms in the region were available for habitation by Marksville period populations (A.D. 1 to A.D. 400). No confirmed Marksville sites have been recorded in the area.

**Soils**

All soils in the project area belong to the Lafitte-Clovelly association which dominates brackish marches in the region. The soils are poorly drained, highly organic, and often flooded. Lafitte soil is found in low-lying areas, while Clovelly soil is found on low natural levees (Matthews 1984:25). Both are very dark grayish brown and black, moderately alkaline, semifluid muck. A gray to dark gray semifluid clay is found beneath Clovelly soil at a depth of 84 inches, and beneath Lafitte soils at a depth of 36 inches (Matthews 1984:25). Each type comprises 48% of the soil association.

**Climate**

Lafourche Parish is typified by long, hot, and humid summers. Winters are relatively warm, but occasional incursions of cool air do occur (Matthews 1984:1-2). The average summer temperature is 81°F (27°C) with an average daily maximum of 90°F (32°C). Average winter temperatures are in the 50°sF (Matthews 1984:2). The growing season exceeds 260 days (White et al. 1983:103).

The area is located within the Subtropics, and its weather is strongly influenced by the nearby Gulf of Mexico. Rainfall is generally 59.35 in (150 cm) annually. Periods of greatest rainfall generally occur between April and September (Matthews 1984:2). Hurricanes and storm

surges occur intermittently, and these have profound effects on floral, faunal, and human communities in the Barataria Basin.

**Plant Communities**

Elevation of the land dramatically affects distribution and composition of plant communities within the Bayou L'Ours watershed. Differences of only a few centimeters of elevation are associated with striking changes in vegetation. This is largely the result of the effects of soil saturation (White et al. 1983:103).

Upland forests were historically confined to only the highest areas. At lower elevations, bottomland hardwood forests, cypress-tupelo swamp forests, and marshes were present. An intermediate swamp may have been present at some locations between these two communities. Large tracts of marsh occur in surrounding areas (White et al. 1983:102).

Prior to cultivation and urbanization of the Mississippi River delta region, upland forests would have occupied most of the natural levee associated with the river itself. Similar plant communities remain present on the Pleistocene terrace north of Lake Pontchartrain. Natural climax vegetation in such forests is dominated by mixed deciduous and evergreen trees that are less tolerant of flooding than are bottomland hardwood species. Woody species in an elevated natural levee forest would have included oaks (*Quercus virginiana*, *Q. alba*, *Q. nigra*), shagbark hickory (*Carya ovata*), hackberry (*Celtis laevigata*), sweetgum (*Liquidambar styaciflua*), pecan (*Carya illinoiensis*), magnolia (*Magnolia* spp.), and various pines (Bahr et al. 1983:82).

Bottomland hardwood forests are dominated by the water oak (*Q. nigra*). Subdominants include the sweet gum, hackberry, and live oak (*Q. virginiana*). Other forest species include the box-elder (*Acer negundo*), honey-locust (*Gleditsia triacanthos*), American elm (*Ulmus americana*) and the Nuttall oak (*Q. nuttallii*). The most common shrub species are palmetto (*Sabal minor*) and green haw (*Crataegus viridis*), but thickets of possum-haw (*Ilex decidua*) also occur. Within forest gaps, elderberry (*Sambucus canadensis*) and French-mulberry (*Callicarpa americana*) occur. Introduced species such as the camphor tree (*Cinnamon camphora*) are also present (White et al. 1983:103-104).

Vines are found throughout the bottomland hardwood forest, and few trees are observed without them. The most common of these include poison-ivy (*Rhus toxicodendron* var. *vulgaris*), Virginia creeper (*Parthenocissus quinquefolia*), supple-jack (*Berchemia scandens*), pepper-vine (*Ampelopsis arborea*), muscadine (*Vitis rotundifolia*), and hemp-weed (*Mikania scandens*) (White et al. 1983:104).

The cypress-tupelo swamp forests, located a greater distance from distributaries, are dominated by bald cypress (*Taxodium distichum*) in areas where it has been re-established after logging. Water tupelo (*Nyssa aquatica*) is often either a sub- or co-dominant species. Red maple (*Acer rubrum* var. *drummondii*) and ash trees (*Fraxinus* spp.) represent the other sub-dominants in this community. Shrubs include wax-myrtle (*Myrica cerifera*) and button-bush (*Cephalanthus occidentalis*), while vines are cat-briar (*Smilax* spp.), trumpet-creeper (*Campsis radicans*), and poison ivy. Herbaceous ground cover includes smart-weed (*Persicaria punctata*), alligator-weed (*Alternanthera philoxeroides*), swamp potato (*Sagittaria lancifolia*), and the exotic water hyacinth (*Eichhornia crassipes*) (White et al. 1983:105).

An intermediate swamp forest sometimes occurs between the bottomland hardwood forest and the swamp forest. The intermediate forest can be extensive due to the gradual slope of the land. Swamp red maple, American elms, and water oaks are common here. Palmettos create a dense understory, which is nearly impenetrable in some locations (White et al. 1983:105).

Another major plant community within the Barataria Basin occurs in the marsh areas, such as predominates the Bayou L'Ours project area. Marshes are categorized according to their degree of salinity, and the areas covered by the various marsh communities have certainly changed through the period of prehistoric occupation due to variation in fresh water influx compared to salt water intrusion.

The ecological distinction between a swamp and a marsh is the absence of trees in the latter. Marsh soils are peat and muck, and elevation of these is less than one meter above mean sea level, comparable to the level of Lake Salvador. In the brackish or intermediate marsh comprising the project area, cordgrass (*Spartina patens*) is dominant, while swamp potato, salt-marsh mallow (*Kosteletzkya virginica*), and seaside goldenrod (*Solidago sempervirens*) are also present (White et al. 1983:106-107). Some plants are specifically associated with the Lafitte-Clovelly soils in the project area. These are: marsh-hay cordgrass, coastal waterhyssop (*Bacopa monnieri*), dwarf spikerush (*Eleocharis parvula*), Olney bulrush (*Scirpus cyperinus*), and saltmarsh morning glory (*Ipomoea sagittata*).

**Animal Communities**

**Fish.** The Barataria Basin hosts a diverse assemblage of fish species. Many marine species penetrate inland to freshwater habitats, while freshwater species are sometimes found in more saline environments. Also, the lower reaches of freshwater streams probably serve as nursery areas for the young of some marine species (Bahr and Hebrard 1976:69). The most common species include: largemouth bass (*Micropterus salmoides*), croaker (*Micropogon undulatus*) bluegill (*Lepomis macrochirus*), catfish (*Ictalurus* spp.), silver perch (*Bairdiella chrysura*), menhaden (*Brevoortia patronus*), flounder (*Paralichthys legostimia*), spotted seatrout (*Cynoscion arenarius*), black and red drum (*Pogonias croimis and Sciaenops ocellatus*), sheepshead (*Archosargus probatacephalus*) and spot (*Lerostomus xanthurus*). Species of gar (*Lepisosteus* spp.) are also found, as are brackish-water clam (*Rangia cuneata*) and crawfish (*Procambrus* spp.).

**Reptiles and Amphibians.** The Barataria Basin hosts at least 26 reptilian species, of which 14 are snakes, including the cotton mouth moccasin (*Agkistrodon piscivorus*), the copperhead (*Agkistrodon contortrix*), and the common king snake (*Lampropeltis getulus*). The American alligator (*Alligator mississippiensis*) is a notable inhabitant. Various species of turtle are common, including the common snapping turtle (*Chelydra serpentina*), common mud turtle (*Kinosternon subrubrum*), and the box turtle (*Terrapene carolina*). At least 14 species of amphibians occur or are likely to occur in the Basin. Most of these are frogs and toads (Bahr and Hebrard 1976:74-77).

**Mammals.** Important fur-bearing species present within the Basin are the muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), mink (*Mustela vison*), and otter (*Lutra canadensis*). Nutria (*Myocastor coypus*) are a recent introduction and were not present during the prehistoric or early historic periods.

Other indigenous mammals known to occur in the area include the Virginia opossum (*Didelphis virginiana*), the swamp rabbit (*Sylvilagus aquaticus*), the fox squirrel (*Sciurus niger*), the fox (*Vulpes fulva*), the bobcat (*Lynx rufus*), the beaver (*Castor canadensis*), the civet cat or spotted skunk (*Spilogale putoris*), and the white-tailed deer (*Odocoileus virginianus*). In addition, several species of terrestrial rodents and bats are endemic (Bahr and Hebrard 1983:118-126). The mammalian faunal inventory would have been even more extensive during the prehistoric period (Speaker et al. 1986:26-29).

**Birds.** At least 216 species of birds are known to occur in the Barataria Basin. Approximately 43% of these are passerines. Some species of this group are permanent residents, while others are only present seasonally. The remainder of the 216 species are predominantly

waterfowl, many of which are migratory. During spring and summer, bird species become especially numerous. These include king rail (*Rallus elegans*), boat-tailed grackle, and red-winged blackbird (*Agelaius phoeniceus*). Also present are dabbling duck (mallard, mottled duck, black duck, gadwell, pintail, green-winged teal, blue-winged teal, baldpate, and shoveler) (*Anas* spp.), diving ducks (redhead, canvasback, scaup, ring-necked, ruddy, and mergansers (*Anthya* spp.), egrets (*Ardea alba*, *Bubulcus ibis*, *Casmerodius albus*, and *E. thula*), herons (*Ardea herodias*, *Butorides virescens*, *Egretta Caerulea*, *E. tricolor*, and *Nyctanassa violacea*), bitterns (*Botaurus lentiginosus*), ibises (*Endocimus albus*, *Plegadis chihi*, and *P. falcinellus*), osprey (*Pandion haliaetus*), and kingfishers (*Ceryle alcyon*). Because the Basin sits at the terminus of the Mississippi flyway, which is the largest waterfowl migratory route in North America, birds represent a potentially abundant source of food, feathers, and bone for tools (Bahr and Hebrard 1976:6-7,78-115). However, at the Coquilles site (16JE37) within the eastern portion of Barataria Basin, surprisingly few remains of birds were recovered (Beavers 1982, DeMarcay 1985). Analysis of faunal remains from Pump Canal (16SC27) resulted in similar findings (Misner and Reitz 1994, Smith 1996).

***Rangia cuneata.*** Shellfish remains are common at almost all of the recorded prehistoric sites located in the Barataria Basin. The predominance of *Rangia cuneata* shells characterizes many prehistoric period sites throughout southern Louisiana. This brackish water mollusk represented a widely utilized resource for pre-European occupants of the region (Byrd 1976). The virtual absence of freshwater mollusks at sites in southern Louisiana contrasts markedly with the abundance of *Rangia*. However, small numbers of shells representing the freshwater genus *Unio* and the saltwater genus *Ostrea* have been reported at some prehistoric sites within the Barataria Basin (Gagliano et al. 1979).

Byrd (1976) examined the nutritional and caloric value of the *Rangia* in order to determine its relative importance to prehistoric diet. She notes that a 100 pound deer might be expected to contribute 50 pounds of edible meat. In order to provide the equivalent 50 pounds of *Rangia*, it would be necessary to harvest 25,300 clams. That would produce 50,600 clam shells which, based on clam size at the Morton Shell Mound (16IB3), would represent a volume of 11.8 cubic feet (3.6 $m^3$). Thus, clams provide only relatively small amounts of meat per volume of discarded shell (Byrd 1976:25).

In addition to providing only a small amount of meat, *Rangia* have relatively low nutritional values compared to other food items utilized during the prehistoric period. This is dramatically illustrated by Table 1 which compares the protein, fat, carbohydrate, and caloric content contained in 100 grams of various food items (Byrd 1976:27).

As the table demonstrates, other kinds of meat yield greater amounts of protein than does *Rangia*. Its fat content is lower than the other food items presented with the exception of grapes, persimmons, and pumpkin. Carbohydrate yield is somewhat higher than other meats, but it is low compared to plant foods. And finally, only oyster, grape, and pumpkin have a lower caloric value. The caloric equivalent of a 100-pound deer would be about 42,000 clams, representing 19.6 cubic feet of clam shells. The volume of *Rangia* shells in a prehistoric midden is, therefore, disproportionate when the contribution of this food is compared to that of other food types that leave fewer and more compact remains (Byrd 1976:27-28).

Despite the fact that *Rangia* are relatively low in food value, they were exploited throughout the prehistoric period in coastal Louisiana. This exploitation may be due to the fact that little risk or expenditure of energy is involved in obtaining *Rangia*. In some brackish waters, these clams are relatively abundant. They can be gathered by hand in shallow waters and by rake in deeper waters. So long as large, dense clam beds are available, little energy expenditure is necessary to obtain them (Byrd 1976:28).

Table 1. Comparative Nutritional Value of 100 Grams of *Rangia* (from Byrd 1976:27).

| | **Protein** | **Fat** | **Carbohydrate** | **Calories** |
|---|---|---|---|---|
| | | | | |
| Clam (raw, meat only) | 12.6 | 1.6 | 2.0 | 76 |
| Oyster (raw) | 8.4 | 1.8 | 3.4 | 66 |
| Deer (raw, lean meat) | 21.0 | 4.0 | 0 | 126 |
| Raccoon (roasted) | 29.2 | 14.5 | 0 | 255 |
| Duck (raw) | 21.3 | 5.2 | 0 | 138 |
| Catfish (raw) | 17.6 | 3.1 | 15.7 | 103 |
| Grape (raw) | 1.3 | 1.0 | 33.5 | 69 |
| Persimmon (raw) | 0.8 | 0.4 | 12.8 | 127 |
| Hickory (nut) | 13.2 | 68.7 | 6.5 | 673 |
| Pumpkin (raw) | 1.0 | 0.1 | 72.2 | 26 |
| Corn (modern, field, raw) | 8.9 | 3.9 | | 348 |

In addition, there are other possible reasons for the apparently heavy exploitation of *Rangia* by prehistoric peoples. Contributions this clam might have made to trace element intake and other aspects of diet remain undetermined. Also, the large volume of clam shells that result from clam harvests represent an important source of "fill" in low-lying areas subject to flooding. All of southern Louisiana represents such an area. It is possible that Native Americans were deliberately using *Rangia* shells to provide greater topographic relief on portions of the natural levee and in the marsh.

# CHAPTER 3
# ABORIGINAL OCCUPATIONS IN SOUTHEASTERN LOUISIANA

## Introduction

This chapter presents a brief overview of Native American culture history in southeastern Louisiana. In general, few sites dating to the Paleo-Indian or Archaic Periods have been reported in southeastern Louisiana (Gagliano 1963; Gagliano and Saucier 1963). Based on an examination of landforms in the study area, Perrault and Pearson (1994:29-31) consider the Marksville period to be the earliest possible cultural occupation in the area. Interestingly, the current investigations at 16LF261 recovered aboriginal ceramic types that suggest a Tchula Period occupation (see Chapter 6). Despite over 50 years of archeological research in the Barataria Basin portion of the coastal zone, basic culture historical and chronological subdivisions remain vaguely defined and poorly understood.

## The Tchula Period

Tchula period occupations in the Lower Mississippi Valley are equated with the Tchefuncte culture. The period has also been identified as the Formative (Jenkins and Krause 1986), or Early Ceramic period because, with the exception of fiber-tempered pottery, it was the interval during which initial pottery complexes appeared in the Lower Mississippi Valley (Neuman 1984:113, 122). Sites are few and scattered, with most occupations found in the coastal zone (Neuman 1984). These data are interpreted to suggest that the peoples of the Tchefuncte culture were largely seminomadic hunters and gatherers (Neuman 1984:135). However, within subareas such as south Louisiana, regional artifact markers, primarily Tchefuncte type ceramics, are useful for recognizing .occupations (Phillips 1970:7, 8, 15, 76) and possibly for defining regional populations (Shenkel 1981; Weinstein 1986).

Peoples of the Tchefuncte culture were the first to engage extensively in the manufacture of ceramics. Fiber-tempered and some grog-tempered or temperless sherds have been recovered from earlier Poverty Point contexts (Webb 1982). These may represent primarily trade goods from the earliest pottery-making cultures in the east. The basic Tchefuncte ware is temperless or grog-tempered, with accidental inclusions of small quantities a sand and vegetable fiber. Sand-tempered wares represent a minority constituent of Tchefuncte site (16ST1) assemblages (Shenkel 1984:47-48). Ceramic decorations and various percentages of these decorations have been used to create several regional phases of the Tchefuncte culture in southern Louisiana (Weinstein 1986). The Pontchartrain phase is considered the earliest Tchefuncte manifestation in the region, and is thought to date from ca. 500 B.C. to ca. 250 B.C. Pontchartrain phase sites are moderately common in the Pontchartrain Basin. The most notable of these sites are the Tchefuncte site (16ST1) in St. Tammany Parish, and the Big Oak (16OR6) and Little Oak Island (16OR7) sites in Orleans Parish (Ford and Quimby 1945; Neuman 1984; Shenkel 1981, 1984; Shenkel and Gibson 1974). A later Beau Mire phase has been proposed to encompass the period from ca. 250 B.C. to A.D. 1, although this phase is not accepted by all researchers (Shenkel 1981, 1984; Weinstein 1986; Weinstein and Rivet 1978).

Tchefuncte sites are generally confined to the areas around Lake Pontchartrain and appear to be associated with relatively early river channels and lake margins. Tchefuncte subsistence is fairly well known. Excavations at the Big Oak Island and Little Oak Island sites suggest an emphasis on hunting and fishing (Shenkel 1981, 1984). Shenkel (1981:331) argues that these two sites initially had occupations which supported "permanent or semi-permanent villages." Later, there is evidence that there may have been functionally different occupations, with Big Oak Island evolving into a "specialized" shellfish and fish procurement and processing station (Shenkel 1981, 1984) which was "unquestionably associated with the contemporaneous village component at the Little Oak Island site" (Shenkel 1981:331-332, 1984). Shenkel (1981:333-334)

emphasizes the narrow range of exploited foods (primarily *Rangia* clams and marsh-estuarine fish and mammals) in the Pontchartrain phase, noting that many other equally productive resources were virtually ignored.

Farther west, at the Morton Shell Mound (16IB3), excavations in the Tchefuncte component revealed a more broadly adapted faunal diet, and also recovered a large and well preserved floral sample (Byrd 1974). Floral remains include seeds of squash (*Cucurbita pepo*) and bottle gourd (*Lagenaria siceraria*), along with hickory nuts, acorns, plum, grape, and persimmon. Although the presence of squash and bottle gourd were initially cited as an example of early Woodland horticulture (Byrd 1976; Byrd and Neuman 1978), recent evidence suggests that such an assumption may not be warranted, since both species are known to exist in wild forms (Fritz and Kidder 1993; see also Neuman 1984:119).

Social complexity was relatively minimal in the Tchefuncte culture. Settlements are generally small and lack certain evidence of earth works or other complex features. Burials are common, but rarely, if ever, contained grave furnishings. The evidence for earthen structures, such as mounds, is debatable. Low, domed mounds have been associated with Tchefuncte culture sites, but the data for securely attributing these constructions to the Tchefuncte people are limited (Neuman 1984:117, 135; Toth 1988:27). The best candidates for Tchefuncte mounds are found in the Lafayette, Louisiana, area, and are centered on the Lafayette Mounds (16SM17) (Gibson and Shenkel 1988; Weinstein 1986). This mound group, along with at least three others in the immediate area, are suggested to represent mortuary centers which served an otherwise dispersed population (Gibson and Shenkel 1988; Weinstein 1986:117).

**The Marksville Period**

The Marksville period is generally subdivided into two sequential temporal units, early Marksville and late Marksville. The early Marksville period is associated with the Hopewellian Tradition manifested throughout the Eastern United States (Phillips 1970:7, 17-18, 886; Toth 1988). The Hopewell Tradition has two major centers of development in Ohio and Illinois; this tradition dates to between 200 B.C. and A.D. 400. Diffusion of aspects of the culture may have resulted from the activity of traders who established a wide-ranging network, sometimes termed the "Hopewellian Interaction Sphere" (Caldwell 1964). In addition to diagnostic pottery types of the Marksville period, conical burial mounds were characteristic of the culture (Toth 1988). Interments are generally associated with grave goods. Some of these artifacts were manufactured from exotic raw materials (Neuman 1984:142-168; Toth 1974, 1988).

The late Marksville period appears to witness an increase in cultural diversity in the Lower Mississippi Valley and also perhaps on the coast. In much of the Lower Mississippi Valley, the Issaquena culture developed over several centuries beginning around A.D. 200 (Greengo 1964; Gibson 1977; Phillips 1970; Williams and Brain 1983). In the Louisiana coastal zone, the cultural situation is very vague and poorly understood.

Early Marksville occupations in the eastern coastal zone are identified with the Labranche phase (Phillips 1970:898, Figure 444). The definition of Labranche phase sites principally consisted of sites at which the frequency of Crooks Stamped (now Mabin Stamped, *var. Crooks*) was equal to or greater than Marksville Stamped. As noted by Gagliano et al. (1979:4-4), the Labranche phase is "overextended geographically." Nonetheless, Labranche is still found as the phase name used in regional culture historical summaries (Perrault and Pearson 1994:Figure 6; Weinstein 1994:38, Figure 3-4), but it appears to be used only as a name to fill an otherwise blank space.

Excavations at the Coquilles site (16JE37) at the junction of Bayou Des Familles and Bayou Coquilles yielded important evidence concerning the Marksville period occupation in the

Barataria region (Beavers 1982a; Giardino 1984, n.d.). Surveys of the Bayou Des Familles channel indicate the possible presence of Marksville period (phase or cultural relationship unknown) sites consisting principally of small shell scatters (Beavers 1982b). Evidently, there is an early Marksville occupation at the Boudreaux site (16JE53) located on the bank of Bayou Barataria near Crown Point (Beavers 1982a: 26; 1982b: 110).

Additional early Marksville occupations in the lower Barataria region include Kenta Canal (16JE51), Dupree Cutoff I (16JE8), Dupree Cut Off II (16JE9), Three-Bayou Field (16JE98), Isle Bonne (16JE60), and Bayou Cutler (16JE3) (Gagliano et al. 1979:4-8--4-19). The early Marksville occupation at Bayou Cutler is evidently the best representation of this time period outside of Coquilles (and possibly Boudreaux). Surface collected sherds from this site include Baytown Plain, *var. Marksville*, some with crosshatch and slanted line rim treatments. Decorated pottery consisted of Marksville Incised, *var. Hill Bayou*, Marksville Stamped, *var. Marksville*, *Old River* and *Sunflower*, Mabin Stamped, *var. Mabin* and *Point Lake*, Churupa Punctated, *var. Boyd* and *Hill Bayou*, and u*nspecified*, and Indian Bayou Stamped, *var. Cypress Bayou* (Gagliano et al. 1979:4-3--4-5).

The late Marksville period occupation in the eastern Louisiana coastal zone is assigned to the Magnolia phase without attribution as to its cultural (as opposed to temporal) affiliation (Phillips 1970:898-899). The Magnolia phase is generally dated to the period ca. A.D. 200-400 (Perrault and Pearson 1994:Figure 6). Magnolia phase components were identified by the presence of specific rim modes and by the absence of Crooks Stamped (now recognized as Mabin Stamped, *var. Crooks*), and the presence of later Marksville markers, including Marksville Stamped, ("probably but not necessarily" *var. Troyville*), Yokena Incised, and unspecified variants of Churupa Punctated (Phillips 1970:899). Based on the radiocarbon dates from the Coquilles site, it is evident that there was a late Marksville occupation associated with the midden deposits to the west of the mound area (Giardino 1984). Ceramics from the late Marksville component of the site included examples of Baytown Plain identified as being like *vars. Marksville* and *Satartia* (including rim modes similar to those associated with Issaquena, such as "Arcadia," "DeSha," and "Peak"), Marksville Incised, *var. Marksville* and *Yokena*, Marksville Stamped, *var. Manny*, *Newsome*, and *Troyville*, Churupa Punctated, *var. Churupa* and *Thornton*; and rare examples of Catahoula Zoned Red (Giardino 1984:16-32). Radiocarbon dates date this assemblage from ca. A.D. 319-650 at two standard deviations.

Late Marksville ceramics have also been recovered from sites farther down the Barataria waterway. Most notably, there is a small but well-defined component at the Bayou Cutler site (Gagliano et al. 1979:4-19--4-27, Figures 4-17 and 4-18, Appendix A). Additional components include Isle Bonne (16JE60), Kenta Canal, Fleming (16JE36), Bayou Villars (16JE68), Rosethorn School (16JE50), Shipyard (16JE85), and Bayou Dupont-Dupre Cut Off (16JE91). Ceramics from these sites include classic modes on Baytown Plain, *var. Satartia*, and Marksville Incised, *var. Goose Lake*, *Liest*, and *Yokena* (Gagliano et al. 1979: Figures 4-17 and 4-18).

**The Baytown Period**

The Baytown period has been defined as the interval between the ends of Hopewellian-inspired Marksville culture and its later Issaquena and related descendants, and the emergence of Coles Creek culture. The Baytown period is often referred to as the "Troyville period" by Delta archeologists. Because of the perceived lack of diagnostic markers for the period in southeastern Louisiana, it is often assimilated with the subsequent Coles Creek period, and the two are together referred to and discussed as "Troyville-Coles Creek cultures" (e.g., Neuman 1984).

Historically, the interval between roughly A.D. 400 to 700 has been one of the most difficult to understand from a culture historical perspective (Kidder 1995). When Phillips (1970:911-912) established the Whitehall phase to encompass the Baytown period in the Louisiana coastal

zone, he specifically noted that the phase "would be more accurately described... as a collection of widely dispersed sites" (1970:911) rather than a coherent archeological manifestation. Kidder (1994a) has argued that Whitehall is not an appropriate phase for this region. Whitehall is better represented in the areas north of the Barataria Basin (Weinstein 1974). Furthermore, Kidder (1994a) argues that the Baytown period in the Barataria Basin, and probably all of coastal Louisiana, may be subdivided temporally into early and late phases. The earliest phase of the Baytown period in coastal Louisiana has been termed the Grand Bayou phase, and the later phase is the Des Allemands phase (Giardino 1993; Kidder 1994a).

The "type" site for Baytown period occupations in the lower Barataria region is the Isle Bonne site (16JE60) (Beavers 1982b; DeMarcay n.d.; Holley and DeMarcay 1977). Amateur excavations at this site revealed a stratified Baytown period occupation associated with two low rises formed by the accumulation of *Rangia* shell (DeMarcay n.d.; see also Gagliano et al. 1979:Appendix A). Ceramics recovered included Larto Red, *var. Larto* (often with bulbous thickened rims), Coles Creek Incised, *var. Phillips*, French Fork Incised, *var. Brashear*, Woodville Zoned Red, *var. Woodville*, Evansville Punctated, *var. unspecified* (probably similar to *var. Duck Lake*); Indian Bay Stamped, *var. Unspecified*; Marksville Incised, *var. unspecified* (*Vick*-like); and Mazique Incised, *vars. Bruly* and *Mazique*.

The Grand Bayou phase is marked by the presence of the so-called terminal Marksville ceramic tradition, characterized elsewhere by local analogs to Marksville Incised, *var. Anglim* and *Vick*, and Marksville Stamped, *var. Bayou Rouge*. Larto Red pottery is evident, as are late variants of Churupa Punctated, especially something similar to *var. Watson*. Rim modes include characteristic early Baytown thickened rim modes and rim and lip notching. Plain pottery consists of relatively thick, coarse grit-grog tempered plain pottery. This later phenomenon, the use of very thick coarse plain ware, may be diagnostic of the Grand Bayou phase, at least along Grand Bayou. Grand Bayou phase components have been identified at Bruly St. Martin (16IV6), Shell Beach (16SB39), Gibson Mounds (16TR5), 16SC42, 16SC43, and 16SC45.

Des Allemands phase components can be identified in stratigraphically unmixed contexts, but are difficult to separate from the early Coles Creek Bayou Cutler phase (Giardino 1993). The use of the "six mile" treatment may be one of the best and most consistent diagnostic hallmarks of the Des Allemands phase, although it certainly is continued into the Coles Creek period. A characteristic of the Des Allemands phase is single- and possibly double-lined examples of Coles Creek Incised, often with incisions on thickened rims. Early Mazique Incised variants are found for the first time, and are especially notable for the initial appearance of Mazique Incised, *var. Bruly*. Thick, coarse grit-grog tempered plainware dominates collections, but sand added to the paste achieves a brief period of popularity. The Isle Bonne site is essentially the type-site for the Des Allemands phase.

Evidence for Baytown period occupations within the study area is scarce. However, surface collections from the Gheens crevasse on the east side of Bayou Lafourche yielded tenuous evidence of late Baytown or early Coles Creek components (Hunter et al. 1988; Pearson et al. 1989).

Grand Bayou and Des Allemands should be considered phases of the so-called "Coastal Troyville" culture. Grand Bayou demonstrates ceramic affinities to phases up the Mississippi River, especially the Troyville phases at Greenhouse (16AV2) and in the Tensas Basin. Grand Bayou is not the same culturally as the Troyville peoples living in the Mississippi River Valley proper, however. Absent on the coast are the distinctive site plans, site hierarchies, burial mounds and mortuary patterns, and total ceramic repertoire. This "Coastal Troyville" culture seems to represent a hunting and gathering society widely distributed across the habitable parts of the coastal zone (Giardino 1993). Although farther north and to the east contemporary groups

constructed mounds and earthen platforms (Blitz and Mann 1993; Kidder and Wells 1992), there are not certain data to substantiate this practice in the Delta.

In contrast with the Grand Bayou phase, the Des Allemands phase peoples seem to have a more eastern orientation (Giardino 1993). It is at this time that we see the beginnings of what appears to be relatively intensive interaction with Weeden Island or Weeden Island-related groups along the eastern gulf Coast (Belmont 1967; Belmont and Williams 1981). Although these external connections are notable, the peoples of the Louisiana coastal zones were developing their own unique adaptations to the delta environment of the Mississippi River. Des Allemands phase ceramics mirror a broad trend in Lower Valley prehistory marking the origins of later Coles Creek patterns.

The coastal pattern of intensive exploitation of fish, deer, and muskrat is in place by the end of the Baytown period. Shellfish harvesting or exploitation continues, but little evidence for settlement differentiation exists at present. The data recovered from the Pump Canal Site (16SC27) hint at a series of relatively brief occupations, and the *Rangia* seasonality data indicate a late spring or early summer occupation (Jones et al. 1994). Perhaps at this time populations living in the Barataria Basin were making seasonal trips to the distal ends of distributary courses to hunt, fish, and exploit the *Rangia* beds in the nearby brackish water environments. If this was a part of a seasonal round that involved living in larger, more established villages, such sites have not yet been found. Possibly Bruly St. Martin, located well into the interior of the Barataria Basin, might qualify for such a village location.

Given our limited data, it is difficult to establish any sociopolitical patterning with confidence. It appears that the Des Allemands phase peoples were egalitarian hunter-gatherers. The data are at present too equivocal to determine whether or not mound building was occurring during the Baytown phase on the coast (Weinstein et al. 1978), and no strong site hierarchy has yet been identified. Site differentiation may exist, but what evidence there is indicates that site function plays the determining role in the size and nature of site occupation.

**The Coles Creek Period**

The Coles Creek period is the interval that begins with the emergence of Coles Creek culture in the southern part of the Lower Mississippi Valley and ends with the establishment of "full-blown" Mississippian culture in the northern part of the Valley (Phillips 1970:18). Although it appears to represent a population zenith in the eastern coastal zone, many sites tentatively classified as Coles Creek may actually be from the Baytown period (Wiseman et al. 1979:3/5).

Coles Creek culture in the central Lower Mississippi Valley is characterized by small ceremonial centers with mounds. Villages of varying size surrounded ceremonial centers. The culture developed in the area between the mouth of the Red River and the southern part of the Yazoo Basin. A distinctive coastal variant of Coles Creek culture emerged at the same time, and no doubt there was a dynamic relation among and between Coles Creek period populations on the coast and in the interior (Brown 1984:95; Jeter and Williams 1989).

Mounds associated with the Coles Creek culture generally are larger and exhibit more construction stages than those found at earlier Marksville period sites. A more significant difference is that Coles Creek mounds are pyramidal and flat-topped, and they were used as substructures for religious and/or civic buildings (Ford 1951; Williams and Brain 1983). In contrast, Marksville peoples generally built conical burial mounds (Neuman 1984:167).

The advent of the Coles Creek period in the Louisiana coastal zone is marked by changes in ceramic frequencies and, to a lesser extent, by the appearance of new types or varieties and the

disappearance of others. More fundamental patterns of economic and social behavior also change, but at a seemingly slower rate. Unlike previous periods, Coles Creek is well known, at least in terms of the ceramics. Typical ceramics include Pontchartrain Check Stamped, Coles Creek Incised, French Fork Incised, Mazique Incised, Chevalier Stamped, Beldeau Incised, Chase Incised, Rhinehart Punctated, and "Coles Creek rims" (Phillips 1970:921). In the Lower Mississippi Valley, Coles Creek has been divided into early, middle, and late phases (Phillips 1970; Williams and Brain 1983). More recently, however, a fourth, usually "transitional" Coles Creek (or in some cases early Plaquemine) phase has been added (Brown 1985; Kidder 1994b; Weinstein 1987).

The archeological record of south Louisiana is sufficiently detailed so that the Coles Creek period is divided into spatially discrete geographic areas. In the coastal zone, there are at least three geographic areas with two Coles Creek phases each. In the eastern portion of the coastal zone, from roughly the Atchafalaya eastward to the St. Bernard marshes, the Coles Creek is defined to include the Bayou Cutler, Bayou Ramos, and St. Gabriel phases (Weinstein 1987).

The settlement patterns of the Coles Creek period are not well understood at this time. There is a general sense that populations were organized into a relatively loosely arranged hierarchy of site types. The best-defined model comes from the Terrebonne marsh area west of the Barataria Basin. Here, Weinstein and Kelley (1992) hypothesize a pattern of major mound sites, satellite villages, and seasonal camps or shellfish collecting stations. The mound sites consisted of one or more earthen mounds, presumably supporting the structures of elite chiefs and/or priests. They suggested that the Gibson Mounds might have served as the major Coles Creek period mound center in this area, although the precise chronology of all the mounds is as yet undetermined. Most, if not all, of Mound C at Gibson Mounds appears to have been constructed during the Bayou Cutler phase. Smaller village sites are found along stable levee segments, usually at the junction of one or more tributaries.

In the Barataria Basin, the archeological data are not adequate to fully address the nature of settlement and social organization. Excavations at the Fleming site (16JE36) indicate that Coles Creek period occupations comprise a considerable portion of the vertical extent of this site (Holley and DeMarcay 1977). Along with the Bayou Villars and Isle Bonne sites, Fleming makes up one of the important "Barataria complex" occupations (Gagliano et al. 1979; Holley and DeMarcay 1977). This locality is presumed to be the major center for Coles Creek and Mississippi period settlement in the lower part of the Barataria Basin. All three of these sites supported earthen or shell mounds, although none can be solely assigned to the Coles Creek period (Gagliano et al. 1979).

There were major Coles Creek occupations at both the Sims (16SC2) and Bowie (16LF17) sites, and numerous Coles Creek period occupations are found in the interdistributary basin between bayous Lafourche and Barataria (Hunter et al. 1988; Pearson et al. 1989). The density of Coles Creek occupation in this area is remarkable and suggests that this region was one of the central loci of activity during this period. Sims and Bowie are presumed to be major villages dating to the Coles Creek period (Davis and Giardino 1981; Jackson 1977). Numerous Coles Creek occupations are found on Bayou Barataria and its distributaries south of the confluence with Bayou Villars. The Pump Canal site can also be hypothesized to be an important village occupation during the Coles Creek period (Giardino 1993; Jones et al. 1994). It may have been an important locality serving as a "base camp" for exploiting the resources of the surrounding marshes and lakes.

In the eastern section of the coastal zone, from the Atchafalaya Basin eastward, Weinstein (1987) observed that the Transitional Coles Creek/Plaquemine occupations were best defined as an extension of the St. Gabriel phase, first defined by Brown (1985) based on excavations at the type site (16IV128) (Woodiel 1980). St. Gabriel or contemporary occupations are found at Mu-

latto Bayou (16SB12), Thibodaux (16AS35), and Bergeron School (16LF33) (Weinstein 1987:93).

The available data from surrounding areas suggest that the Transitional Coles Creek/Plaquemine occupation of the Barataria Basin was largely unchanged from earlier Coles Creek times. The major settlements continue to be located along Bayou Barataria or farther inland on the distributary channels of Bayou Lafourche or at the edges of large crevasse splays. The largest site of this time appears to be the Bowie site (Jackson 1977). A contemporary component is also found at the Sims site. The concentration of sites at the junction of bayous Barataria and Villars is the best candidate for regional center in the Barataria Basin, but the precise chronology of these sites is still unknown.

Although Brown et al. (1979) note that important changes in settlement (and presumably subsistence) are initiated during Transitional Coles Creek/Plaquemine times in the Petite Anse region, no such evidence is found in regions to the east. In the Terrebonne marshes, the settlement pattern evidently continues unbroken from earlier times (Weinstein and Kelley 1992:353-355). The quantity and number of mounds constructed appear to increase through time, but the number dating to this interval cannot be determined at present. A clear mound center and subsidiary village hierarchy developed during the Coles Creek period and probably continues into these transitional times. The trend in the coastal zone is one of gradual and steady evolution within the region. External influences may be present, but they do not appear to be notable in terms of the process of culture change. The origins of the Mississippi period cultures of the coastal zone seem to be wholly local. Later events, though, seem to suggest that this region witnessed a significant influence from Mississippian groups farther eastward along the coast.

**The Mississippi Period**

The beginning of the Mississippi period is marked by the appearance of emergent Mississippian culture in the northern part of the Lower Mississippi Valley and throughout much of the interior Southeast. Mississippian culture characteristics, such as shell tempering and the use of maize agriculture did not penetrate into much of the central Lower Valley until after ca. A.D. 1200. Plaquemine culture is the term used to denote the indigenous late prehistoric populations of most of the Lower Mississippi Valley and adjacent coastal regions. Archeological evidence suggests that Plaquemine culture emerged from a Coles Creek base and was later influenced by Mississippian intrusions from farther up the Mississippi River Valley. Multi-mound construction and artifact assemblages are evidence that link the two. Absence of European trade goods indicates that the Plaquemine culture reached its zenith prior to European contact (Neuman 1984:258-259).

The late prehistoric culture history and chronology of the eastern portion of the Louisiana coastal zone is not well understood at present (Jeter and Williams 1989:191). The data indicate that local Plaquemine populations in the region developed out of the Transitional Coles Creek/Plaquemine beginning at roughly A.D. 1200 (Jeter and Williams 1989:191-195; Weinstein 1987). At roughly the same time, however, Mississippian ceramics (and possibly peoples), which are identified with the Pensacola variant of Mississippian culture, enter into the area from the east, presumably via the Gulf Coast. Sites in the eastern coastal zone with shell tempered pottery in large quantities are identified with the Bayou Petre phase, while late prehistoric sites in the area without shell tempered pottery, and which show evidence of more Lower Valley ceramic characteristics, are identified with the so-called Delta-Natchezan phase. Although these Mississippian ceramics tend to be found primarily in the easternmost part of the region, Mississippian Bayou Petre phase pottery is not wholly confined to this region (McIntire 1958). To further complicate the picture, there is increasing evidence that the late prehistoric populations in the Barataria Basin integrated some of the Mississippian designs and styles into the local ceramic repertoire (Davis and Giardino 1981).

The Plaquemine occupation of the Barataria Basin and adjacent parts of the coastal zone is designated the Barataria phase. Holley and DeMarcay defined this phase based on amateur excavations conducted at the Fleming site (Holley and DeMarcay 1977; Manuel 1984). Fleming consists of at least one earth and shell mound, and a shell midden (Holley and DeMarcay 1977:4; Weinstein 1987:96). The Fleming site is one of three apparently contemporary occupations at the junction of Bayou Barataria and Bayou Villars. The Isle Bonne and Bayou Villars sites also consisted of earth and shell midden and mounds (Gagliano et al. 1975:24, 58, 1979; Holley and DeMarcay 1977; Weinstein 1987:96). As noted by Weinstein (1987:96), "this large mound complex forms the hub of the Barataria phase."

The Barataria phase is differentiated from the contemporary Medora phase of the Mississippi Valley by the absence of Plaquemine Brushed pottery and by the extensive use of so-called Southern Cult motifs in association with typically Lower Valley pottery such as Anna Incised and L'Eau Noire Incised (Holley and DeMarcay 1977; Weinstein 1987:96). The Barataria phase ceramics, however, are otherwise Plaquemine in composition. Major types and varieties associated with this phase include L'Eau Noire Incised, *vars. L'Eau Noire* and *Bayou Bourbe*, Carter Engraved, Maddox Engraved, and Mazique Incised, *var. Manchac* (Holley and DeMarcay 1977:14-18).

With the decline of Moundville and its influences across the Gulf Coast in the later part of the fifteenth century, the deltaic part of the coastal zone saw once again a renewed emphasis on indigenous styles in ceramics. The so-called Delta Natchezan phase represents the final late prehistoric phase in the region. Ceramics of this phase show a strong continuity from the Barataria/Bayou Petre phase occupations in the region, with the addition of pan-Lower Valley varieties such as Fatherland Incised, *vars. Fatherland* and *Bayou Goula*. Shell tempering continues as an important, but not unique, characteristic in the ceramics from the region (Giardino 1985).

The largest excavated late prehistoric site in the deltaic portion of the coastal zone is the Sims site (Davis 1981; Davis and Giardino 1981; Giardino 1985). Excavations in areas 1 and 3 at Sims revealed Mississippi period deposits attributable to the Bayou Petre and Delta Natchezan phases. Excavations in area 3 at Sims revealed a late Mississippi period component thought to be related to the terminal occupation at the Bayou Goula site and possibly dating to the protohistoric or early historic period (Giardino 1985).

The Bowie site also contained a minor Bayou Petre or Delta Natchezan phase occupation (Jackson 1977). During this late prehistoric period, archeological sites are found across much of the marsh and levee lands of the eastern coastal zone. Collections from the Buras Mounds (16PL13) and from the Bayou Ronquille site (16PL7) demonstrate that there were important mound occupations located near the modern day coast and associated with recent distributary channel courses (see Kniffen 1936; Weinstein 1987).

The Bayou Des Familles channel appears to witness an increase in occupation frequency during the late prehistoric and into the historic periods (Beavers 1982b; Franks and Yakubik 1990; Fuller 1991; Swanson 1991; Yakubik 1989). Mississippi period sherds at a number of small shell middens along the bayou suggest that either a larger population was exploiting the region, or that they were visiting the area more frequently. None of the Mississippi period sites are large, nor do they show evidence of the building of typically Mississippian site plans or features (mounds, mound-plaza arrangements). The radiocarbon dates from the Bayou Des Familles site (16JE218), in conjunction with the ceramic assemblage, however, demonstrates that both shell tempered and clay/Addis pottery were being used at the same time.

In contrast with the Petite Anse region, the eastern coastal zone does not witness very dramatic changes in settlement during the post-Coles Creek era. Several important trends become evident, however. First, we see an expansion of settlement into more recently formed marsh areas and along peripheral distributary channels adjacent to the essentially modern course of the Mississippi River. Sites such as Buras Mounds and Bayou Ronquille are good examples of this trend (Kniffen 1936; Weinstein 1987). There is also an evident pattern of nascent settlement coalescence focusing on relatively centralized, frequently mounded, communities. In the eastern coastal zone, we see the formation of a small number of large mound groups that appear to be the central focus of occupation in the region. Other than these mound sites, though, large late prehistoric sites are not especially evident. Bayou Petre and Delta Natchezan non-mound sites are small, and generally are associated with well-elevated stretches of levees. The typical Coles Creek marsh adaptation appears to have been abandoned for one presumably more focused on the cultivation of domestic crops in well-drained areas.

The subsistence and sociopolitical organization of the late prehistoric period is not well documented. A small amount of corn was recovered from uncertain contexts at the Fleming site. Analysis of the fauna from Sims indicates that the later prehistoric inhabitants of the site were exploiting a narrower range of animals, and were placing less emphasis on marsh species, notably alligator and muskrat. At Pump Canal, however, the post-Coles Creek occupants appear to have been carrying on with a marsh oriented subsistence patterns, focusing on muskrat, raccoon, deer (to a lesser extent), fish, and amphibians (Misner and Reitz 1994). This late prehistoric occupation (or occupations) appears to have been relatively transient and may represent the shift from village type occupations to more temporary, possibly seasonally occupied, camps. Changes in faunal exploitation and settlement type at Pump Canal appear to correlate with changes in local environments (Jones et al. 1994, Smith 1996). Ethnohistorical data from the region suggest that the Chitimacha Indians practiced a mixed fisher-farmer-collector subsistence strategy. Maize and other cultigens were planted on elevated plots of land, frequently along bayous, with populations periodically (perhaps seasonally) ranging out to marshes and lakes to gather shellfish and to fish. In the early historic period, the Chitimacha evidently moved in mixed-sex family groups, and they may have spent much of the summer away from their garden plots.

There is little doubt that the late prehistoric Indians of the eastern coastal zone were living in stratified chiefdom level societies at the time of early European contact. Weinstein and Kelley (1992) suggest a hierarchically organized settlement pattern for the late prehistoric communities in the Terrebonne marsh area, involving mound communities, lesser villages, and seasonal resource collecting stations or camps. Along Bayou Lafourche, Altschul (1978) identified two temporally distinct patterns, corresponding to what are identified as Plaquemine and Mississippian cultural occupations. The earlier, Plaquemine pattern evidently involved a seasonal pattern of movement focusing on a centralized fall/winter community located on interior forested levees, with spring/summer occupations consisting of dispersed habitations spread across most major landforms, but especially emphasizing the exploitation of marsh and coastal resources (Altschul 1978:184-186). Evidence for status differentiation in and among these communities is minimal (Altschul 1978:186). The second pattern described by Altschul is associated with the "Mississippian" occupation of the region (1978:186), with large, sedentary mound communities occupying elevated levees. Altschul hypothesizes that "a sizable proportion of the villagers lived in dispersed homesteads" (1978:186). He further infers that, "While there is no definitive evidence, the location and complexity of these sites indicates that plant domesticates were heavily utilized" (Altschul 1978:186).

**Summary**

The archeology of the eastern coastal zone is only now beginning to come into focus, and we are just starting to develop an appreciation for the complexity evident in the region. There is a strong correlation between the regional culture history and changes in the environment, caused

ultimately by shifts in the Mississippi River's course. Native Americans in the region adapted themselves to these changing environments in a number of ways.

The Marksville period witnessed an expansion of human populations into newly formed lands and marks the first extensive colonization of the lower Barataria Basin. Excavations at the Coquilles and Boudreaux site indicate the presence of an extensive and perhaps intensive early Marksville period occupation. However, neither site has yielded evidence for the complex mortuary programs, trade contacts, or social complexity normally associated with Marksville culture.

Late Marksville occupations are also evident in the eastern coastal zone. Based on the ceramics, these appear to be similar to those identified with the Issaquena culture farther north, but specific cultural connections have not been illuminated due to a lack of well-controlled excavations. Several important components of this time period have been suggested, most notably at Coquilles and Bayou Cutler, but once again, specific data and exact chronologies are lacking.

During the Baytown period, the coastal zone witnesses an increase in population or at least habitation. The lower Barataria Basin is home to several sites of this period, notably Isle Bonne, which appears to date to the later part of the Baytown sequence. There are some sites attributed to the Baytown period along Bayou Des Familles, but they do not show the classic characteristics, especially red-filmed pottery and French Fork Incising. We can speculate that at this time there was a movement of peoples out from the interior part of the basin towards the marsh and coast to the south.

The pattern noted in the Baytown period continues in the Coles Creek period. Populations continue to expand along the coastal zone, especially along channels extending into the marsh. Some parts of the Barataria region see fairly intense occupations. This is especially notable south of the confluence of Bayous Barataria and Villars, and to the west in the Bayou Des Allemands region and extending to Lake Salvador. Coles Creek peoples seem to be very intensively exploiting marsh habitats, and they do not appear to have been cultivating domesticated plants.

During the Mississippi period, we see a gradual shift from the Coles Creek pattern of marsh exploitation towards one evidently oriented towards agricultural practices. There is little change during the early part of the period. By the Barataria phase, there may be some contraction in the number of sites and the range of exploitation. There is an increasing emphasis on larger, possibly more permanent settlement along well-drained levees. A distinctly bimodal settlement patterns evolves by ca. A.D. 1300-1400, with large villages, frequently with mounds, being located on well-drained soils, and with small, dispersed communities scattered across most of the major landforms. By the late prehistoric period, this pattern seems to be emphasized, especially along the major tributaries and waterways. Major mound centers were probably the locations of ruling civic and religious elite, and small, dispersed settlements are likely to have been dependent on the larger centers in an economic or political sense.

# CHAPTER 4
# HISTORICAL OVERVIEW OF THE BARATARIA BASIN

## European Exploration and Aboriginal Populations

The earliest recorded European contact in southeastern Louisiana was the arrival of the Hernando de Soto expedition in 1543. The survivors of that expedition made their way down the delta, eventually arriving at the mouth of the Mississippi River, where they clashed with a coastal Indian group (Varner and Varner 1962:595).

After this first intrusion, the area remained relatively isolated from European contact until the late seventeenth century, when the *coreurs de bois* began making their way down from Canada in search of furs and Indian trade goods. La Salle journeyed from his post in Illinois in 1682 to explore what would become Louisiana and claim it for France. He, too, followed the Mississippi all the way to its mouth. In 1699, Bienville traveled down Bayou Lafourche, the natural levee of which marks the western boundary of the Barataria Basin. His goal was to make contact with the Ouacha Indians who were known to live along the bayou. Bienville's Bayogoula guide referred to the bayou as "the River of the Ouachas" (Hunter et al. 1988:27-28).

Only a few years later, Bienville sent a raiding party to attack the Chitimachas and to capture slaves. The Chitimacha were now living on Bayou Lafourche, which was referred to as "River of the Chitimachas." It appears that the Chitimacha settled in the area already occupied by the Ouacha and Chaouacha some time between 1699 and 1705. Some Ouacha and Chaouacha Indians moved to locations along the Mississippi River within and near St. Charles Parish during the 1700s (Hunter et al. 1988:28, 30-31; Blume 1990:18; Giardino 1984:251-252). However, they also maintained a presence in the Barataria Basin. Lake Salvador was referred to as "Lake Ouacha" or "Lake Washa" into the late-nineteenth century. The 1763 confirmation of a land transaction made in 1744 indicates that Claude Joseph Villas Dubreuil purchased from the "Ouacha and Chaouache Indians" a large tract located on the west side of Lake Salvador (NONA: Lavergne 1820, cited in Pearson et al. 1989:22).

The 1803 Trudeau map indicates that Ouacha and Chaouacha not only continued to occupy villages on the south shore of Lake Salvador at the end of the eighteenth century, but that they retained many of their traditional lifeways. The map contains an interesting note in reference to a site on the west side of Bayou Perot: "village of the Ouachas nation where the bones of the nobility were piled up... a mountain formed only with innumerable skulls has been found there" (Trudeau 1803). A Chaouacha village also appears on the map in the area of the Temple site (16LF4) with the note, "... where there was a temple for the celebration of ceremonies for their idols: They kept the bones of their nobility in a separate house" (Trudeau 1803). Both villages are drawn as a series of mounds, of which the major component was probably *Rangia* shell rather than bone. Trudeau remarks:

> This shellfish is so abundant that the different tribes that inhabit these lakes make it their principal diet. And as these tribes pile them up in the environs of their villages, the shells produce pyramidal forms that still grow and although from the beginning of the province it was from these same mounds that lime was taken for the public buildings of all of Lower Louisiana. They were not formed in a single period. We ought then to infer that the tribes which piled them up were innumerable (Trudeau 1803).

The historical accounts indicate that the Ouacha and Chaoucha were semi-nomadic, with their movements relating to a seasonal food procurement strategy that included raising corn, fishing, hunting, and gathering (Giardino 1984:250-252). It is probable that the Ouacha and

Chaouacha were pushed into the marginal swamps and marshes of the Barataria Basin as European settlers claimed the more desirable lands (Perrault and Pearson 1994:40). They did, however, develop an important trading relationship with the few European settlers and their slaves who occupied the area in the eighteenth century (Usner 1992:24-31, 139-140).

**French Settlement**

Although LaSalle had claimed for France all of mid-continental America drained by the Mississippi in 1682, France initially did little to develop the new territory. Louis XIV was preoccupied with wars and court extravagances until shortly before the start of the eighteenth century. In 1698, Pierre Le Moyne d'Iberville, accompanied by his younger brother Jean-Baptiste Le Moyne de Bienville, was sent to establish French sovereignty over the Mississippi Valley and the Gulf Coast in the vicinity of the river's mouth. Bienville established Fort Maurepas at Biloxi Bay in 1699, and the following year he founded Fort de la Boulaye on the east bank of the Mississippi River somewhere within present-day Plaquemines Parish. Both sites were abandoned within a few years, and a settlement at Mobile became the center of French activity (Wilson 1987:1).

In 1712, the French crown granted Crozat a monopoly on economic affairs of the languishing settlements. Crozat's charter granted him commercial, mineral, and fur trading privileges, and it authorized him to send one shipload of African slaves annually for sale to the colonists. In turn, Crozat's obligation was to send two vessels of colonists each year. Crozat was relying on commercial profits to finance his enterprise. However, anticipated profits from exploitation of mineral resources and from the fur and Indian trade were not forthcoming. Crozat's only reliable market consisted of the approximately 700 settlers scattered through the colony (Clark 1970:14-16).

In 1717, Crozat's financial failure forced him to give up his commercial monopoly on the colony. Louis XIV had died in 1715, and he was succeeded by the Regent Phillipe, Duc d'Orleans, whose financial advisor was John Law. Law's *Company of the West*, involved in French commercial and financial ventures throughout the world, assumed responsibility for the Louisiana colony in 1717 (Clark 1970:17). That same year, the *Company* directed that a city named New Orleans would be established on the Mississippi River some thirty leagues from the mouth of the Mississippi River (Wilson 1987:3-4).

By 1729, an area within the Barataria Basin was being referred to on maps as the "Isle de Barataria." Virgin forests and shell middens in that region had potential for and began to be used as construction materials in New Orleans. The wood growing there was also exported (Swanson 1975:135-136); it represented an important commodity in the early years of the colony (Clark 1970:29). Canals were dug from the Mississippi River into the Barataria Basin to provide an access route for retrieving felled trees. The Basin was also a source for fish, game, and exportable furs for the early colonists (Swanson 1975:136). Some concessionaires also began raising cattle on higher ground within the Basin (Swanson 1991:19).

The original French edition of Le Page du Pratz' *Histoire de la Louisiane*, published in 1758, provides a description of the Barataria area, and how it came to be named:

> On leaving that coast [of the Gulf of Mexico] of white and crystal sand in order to go northward, we find five or six lakes which communicate with one another and which are, doubtless, remains of the sea. Between these lakes and the river [Mississippi], is an earth accumulated on the sand, and formed by silt of the river... between these lakes there is nothing but sand, on which there is so little soil that the sand-bottom appears to view; so that we find there but little pasture which some strayed buffaloes come to eat; and no trees, if we ex-

> cept a coast on the border of one of these lakes [Lake Salvador] which is all covered with evergreen oaks, fit for ship-building. This land extends a league in length by half a league in breadth; and was called Barataria, because it is enclosed by these lakes and their outlets, to form almost an island on dry land, as was that of which Sancho Panza was made governor [quoted in Swanson 1991:1].

French reconnaissance of the Barataria region made evident the area's potential for the extraction of timber, game, fish, furs, and shell (see for example, Bellin 1764). An early French place-name to occur in the area was *L'Hermitage*, which appeared on a number of eighteenth-century maps in the area to the east of Lake Salvador. The significance of this place-name is not known (Holmes 1986:49), but Swanson suggests that this term was applied to structures used for religious purposes (Swanson 1991:15).

Claude Joseph Villars Dubreuil received large concessions in the Barataria Basin prior to 1732, and he engaged in energetic developmental efforts. He had a canal dug from a branch of Bayou Barataria to the Mississippi River, and undertook logging, boat building, ranching, and wax myrtle harvesting at his Barataria holdings. Elsewhere he grew indigo and experimented with sugar cane, and he may have attempted farming in Barataria (Holmes 1986:50, 53). As with Dubreuil's, most of the seventeenth-century landholdings in the Barataria Basin were concentrated to the east and northeast of the current project area, along bayous Barataria and des Familles. The western lakes and bayous of the basin were largely the undocumented domain of Indians, trappers, maroons, and (later in the century) pirates.

**Spanish Rule**

As a result of the French and Indian War, Spain was granted New Orleans and all Louisiana territory west of the Mississippi in 1762. French colonists in Louisiana did not easily accept either the news or the new government. It was not until 1769 that Spanish Governor Alexandro O'Reilly was able to secure Spanish control of the colony (Taylor 1976:21). Throughout the period, Spanish colonization remained primarily military and political in nature and did not have a major cultural influence on the colony.

However, the Spanish colonial government did make some efforts to encourage Spanish settlement. The most notable project was the assisted immigration of hundreds of Canary Islanders. The Barataria settlement on Bayou des Familles and the Valezzuela settlement, located further north on the upper reaches of Bayou Lafourche, were established as part of this project. The Spanish crown evidently purchased some tracts in Barataria and acquired others by eminent domain. In 1779, about 150 recruits from the Canary Islands (referred to as *Isleños*) began arriving at the settlement. Hurricanes in 1779 and 1780 and chronic food shortages devastated the community. The Barataria *Isleños* began relocating to a sister settlement in present-day St. Bernard Parish as well as to New Orleans and other places. The *Población de Barataria* was a failure, and most of the Canary Islanders had left the area by 1785 (Yakubik et al. 1995). However, some of the residents remained at the settlement for a few additional years. At least one member of the original group of settlers still lived near Bayou des Familles at the time of her death in 1807 (Swanson 1991:97-98). Archeological evidence, specifically Native American ceramic wares, found at the Barataria *Isleños* house sites, indicates that even in the early 1780s European settlers in the hinterlands were trading extensively with Native Americans in the Basin (Giardino 1989:106-116). The Spanish Crown nullified grants of most of the land in Barataria after it became vacant when the *Isleños* departed, and regranted it to new owners.

The Spanish administration also facilitated settlement by the population that was to become the most significant ethnic group in the Barataria Basin: the Acadians. After being exiled from Canada in 1755 under the Grand Derangement, the Acadians began arriving in

Louisiana in 1766. In 1785, the Spanish helped settle approximately 600 Acadians along Bayou Lafourche (Brasseaux 1985:35). By 1788, the Acadians made up 61% of the population in the Lafourche District (Brasseaux 1985:35). Germans filtering down from the German coast, Creoles, *Isleños*, Native Americans, and African-Americans made up the remainder of the population. In the Spanish period, the Acadians adapted their traditional lifeways to an entirely new environment. These changes included a transition from wheat to corn, from flax to cotton, and from *poteaux-en-terre* houses to Creole cottages. (Brasseaux 1985:38). However,

> [w]hile essential to survival, these changes in material culture nonetheless altered only superficially the traditional Acadian way of life. As in their homeland, the vast majority of the Acadian immigrants remained subsistence farmers producing only enough for home consumption and small surpluses for sale or barter. In the 1770s, for example, the typical Acadian household cultivated only 3-5 arpents of land, primarily for home consumption, while shipping small quantities of salt pork to New Orleans in exchange for manufactured items which could not be produced on the family farm. [Brasseaux 1985:40]

Gradually, the Acadian population spread throughout the bayous and marshes of the Lafourche-Barataria region and became known for their skills in fishing and trapping.

François Enoul Livaudais was the first major landholder in the project area. In the 1780s and 1790s, he purchased tracts that included shoreline reaches of Bayou Segnette, Lake Salvador, Bayou Perot, and Little Lake (Pearson et al. 1989:20). Much of this property was only a half arpent deep and, thus, probably was restricted to the high ridges of natural levees and shell banks. Perrault and Pearson postulate that Livaudais exploited the shell banks as a source for lime and oak (1994:51). Livaudais' lands continued to be the only legally owned and utilized lands in the project area during the nineteenth century. Even so, these were still considered "backlands." No records of residences or structures have been found which would account for the nineteenth-century cultural material found in the area. These artifacts usually wash up on the same shell ridges bearing the remains of prehistoric occupations (Perrault and Pearson 1994:51).

**Antebellum Period**

After a brief repossession by France, the Louisiana territory was purchased by the United States in 1803. An influx of Anglo-American settlers soon followed and Louisiana received statehood in 1812. Many of the Americans arriving quickly began acquiring old Creole plantations or establishing new plantations of their own along the Mississippi River. The effect in the Barataria-Lafourche area was that the Acadians were pushed southward, away from their original settlements near the mouth of Bayou Lafourche (Perrault and Pearson 1994:45). Another effect was the introduction of a large number of African-American slaves into the local population.

Most of the new plantations were devoted to sugar cultivation and processing, however, the majority of the land suitable for sugar remain on the margins of the project area. Chronic flooding along the middle reaches of Bayou Lafourche delayed the establishment of large sugar plantations in that area. Conditions were even less favorable east of the bayou: "[w]hile planters and farmers settled the natural levee lands along Bayou Lafourche, the marshes and swamps of the vast Barataria region east of Bayou Lafourche remained the domain of fisherman, hunter and lumberman" (Perrault and Pearson 1994:46).

By the early-nineteenth century, the name "Barataria" was used to refer to a large area that included natural levees, swamps, marshes, lakes, and bays between Bayou Lafourche to the west and the Mississippi River to the north and east. The first two decades of the century were the period when the Basin acquired its associations with the activity of Jean Lafitte and his

compatriots. However, smuggling was a common activity in the Barataria region in both earlier and later periods (Swanson 1975:149-151).

A colorful and legendary figure, Jean Lafitte and his two brothers, Pierre Lafitte and Dominique You, moved into Barataria Bay in 1805 to engage in smuggling and privateering. Barataria was an ideal base for these activities, with a deep-water anchorage at Grand Terre, and a network of waterways that allowed transportation of goods to the city of New Orleans, and to Bayou Lafourche and the plantations above the city. The Baratarian landowners were, for the most part, in various degrees of complicity with Lafitte. Between 1805 and 1814, Lafitte built a commercial empire from his base at Barataria, with perhaps several hundred men in his company. However, the size of Lafitte's illicit operations made it impossible for the United States government to ignore him, and the U.S. Navy suppressed his activities, raiding Lafitte's base and taking him and his men prisoner. Lafitte and his men were released from prison to take part in the Battle of New Orleans, and subsequently they were pardoned. Lafitte gave up on Barataria and moved his base of operations to Texas (Holmes 1986:59-60).

Jean Lafitte and his pirates maintained a headquarters on Grande Terre at the southern end of the Barataria Basin where they built dwellings and storehouses. They also utilized the Little Temple shell mound (16JE19), located further inland in the Basin. Wharves, storehouses, and a slave barracoon were said to have been present at Little Temple. In September 1814, the U.S. Navy attacked and destroyed Lafitte's stronghold at Grand Terre. Local lore holds that many present-day inhabitants of the Barataria Basin are descendants of Lafitte's pirates (Swanson 1975:138-139, 149-152).

Although conditions in the project area were not ideal for sugar cultivation, the drive of sugar entrepreneurs from the 1820s to the 1840s had a profound effect on the area. A canal connecting Bayou Lafourche with Little Lake was excavated in the 1820s or 1830s. This facilitated access to the port of New Orleans. Another canal, serving sugar plantations on the banks of Bayou Lafourche and the west bank of the Mississippi, was excavated in the mid-nineteenth century (Perrault and Pearson 1994:47). These canals helped precipitate the erosion of the Barataria marsh, which the current project is intended to mitigate. But even before the development of the canals and the steamboat era, boat transportation played a key role in the culture and history of the area.

> Concomitant with the region's settlement history, was development of the area's waterways. Each house had a boat of some type docked in front, attesting to the bayou's importance. Commodities were being produced for foreign markets with affluent planters requiring luxury items. Trade was essential; consequently, boats and waterways were a necessity [Pearson et al. 1989: 104].

Nearly the entire Barataria Basin and Bayou Lafourche area has a high potential for shipwrecks and underwater resources (Pearson et al. 1989:48).

By the last decade of the antebellum period, the population of Barataria had increased greatly since the decline of the *Isleño* settlement. Despite a major crevasse in 1849-1850, 1,176 inhabitants were enumerated in the Barataria region in the 1850 census. Of these, 657 persons were white and 504 persons (46 percent of the total) were slaves. Of the slaves, the great majority (79 percent) were owned by large plantation owners and lived at the plantation centers, rather than dispersed in the back lands. A small majority (51 percent) of the adult free males in the Barataria region worked full- or part-time on the large plantations as engineers, overseers, skilled laborers, and so forth, and overall, 65 percent of the total Barataria population lived on the plantations. Of the remainder of the white male inhabitants who did not work on the plantations, 25 percent had their occupation listed in the census as hunter, 9 percent worked on the water, and 8 percent were farmers. However, many of these free residents of Barataria probably worked at a

number of occupations, hunting, fishing, logging, and doing agricultural labor on a seasonal basis (Holmes 1986:89).

**Civil War and Reconstruction**

The only wartime actions near the project area concerned the upper and lower portions of Bayou Lafourche, although the occasional "smuggler" was reported to be lurking in the Barataria marsh (Bergeron 1985:205). Union and Confederate forces fought a number of skirmishes in the vicinity of Donaldsonville between October 1862 and July 1863 (Bergeron 1985:202-204). Confederate Fort Guion was established on the lower reaches of Bayou Lafourche in 1861. Earthen bulwarks flanked the bayou and supported two 32-pound cannons that never came into use, as New Orleans fell less than a year later (Perrault and Pearson 1994:49). In June 1863, a battle took place at Lafourche Crossing, where two major railroad lines crossed Bayou Lafourche. Confederate forces attempted to force back a Union encampment on the east bank of the bayou, but lost heavily. After this, the area was dominated by the Union and saw no more battles (Perrault and Pearson 1994:49).

The Civil War disrupted the economic development of the Barataria Basin. The sugar industry suffered from an unstable market and the loss of infrastructure. The transition from slave labor to wage and tenant labor was seldom an easy adjustment. As a result, many of the sugar enterprises in the marginal lands of the middle Lafourche were abandoned in favor of truck farming and lumbering; "the population began to depend more on vegetables and the seafood industry" (Perrault and Pearson 1994:49).

Logging and lumbering had been important in the Barataria Basin since the French colonial period. However, pre-industrial logging methods were unable to fully exploit the timber resources of the cypress back swamps. In 1889 the pullboat was invented, and in 1892, the overhead cableway railroad skidder. These developments allowed cypress and other species of trees to be logged in virtually any environment that had prevented their previous exploitation. Coincidental with a surge in national demand for lumber, the new technologies led to a boom in logging activity throughout Louisiana. So efficient were these logging methods that within a single generation, almost all virgin stands of cypress had been depleted in Louisiana, and by 1925, the industry was in major retraction (Mancil 1972:76-77, 82-85).

**Twentieth Century**

It was not until the twentieth century that a significant number of land claims in marshland surrounding Barataria Basin began to be recorded. Prior to that time, as has been emphasized above, the area was the domain of a largely undocumented "frontier" society comprised of Native Americans, "swampers," hunters, trappers, fisherman, and loggers (Usner 1992). Even today, the area is inaccessible except by boat. Most of the twentieth-century land claims are related to the discovery of oil and gas reserves lying beneath the marsh. Perrault and Pearson provide a detailed land-use history for this period (1994:49-64).

The so-called "golden age" of cypress lumbering in Louisiana was a brief but intense episode of dramatic change in the cultural and natural geography of southern Louisiana. Characteristic of this industrial logging period was the purchase or lease of large swamp tracts by logging companies, who moved in with temporary support and processing facilities. The logging companies altered the landscape by building canals or railway embankments, and then removed virtually all trees of marketable size. Workers moved throughout the cypress region, residing in barracks or quarters boats while employed in a particular area, and then leaving when extraction on any tract had been completed. In the Barataria region, the logging industry evidently drew on a distinctly different labor pool than was the case in the large cypress reaches of the Atchafalaya Basin. In the eastern Atchafalaya Basin area, about one-third of the workers in the cypress log-

ging industry were of Native American, African-American, or mixed heritage (Grace 1946:232), but in the Barataria region virtually all of the laborers were African-Americans, who worked under white supervisors. A large logging camp might have 80 African-Americans and six whites. Much of the cypress and hardwood timber from the Barataria Basin was milled at the Louisiana Cypress Company, afterward the Rathborne Lumber Company, located on the Harvey Canal at the Mississippi River (Holmes 1986:108). By 1925, virgin cypress stands were almost entirely depleted, and the large cypress mills went into decline. Smaller, portable mills became more prevalent (Holmes 1986:109). The high lands supporting cypress stands were concentrated along the natural levees of bayous Lafourche, Barataria, and des Familles.

By the second decade of the twentieth century, the Barataria area had a considerably reduced population. Many of these Barataria residents were squatters engaging in extractive pursuits, such as hunting, fishing, and trapping for their livelihood. Demand for muskrat fur grew after 1900, and with the reduction of the alligator population in the Louisiana swamps, the number of muskrats available for trapping soared. Shrimping was done on a large scale in the Barataria Basin in the late-nineteenth and early-twentieth centuries. The stilt villages where the shrimpers lived, and where shrimp were dried for export, were a characteristic feature of Barataria Bay. Oystering, crabbing, and moss collecting were other extractive activities that were pursued in the Barataria area on an extensive scale. In more recent decades, technological developments, particularly in water transportation, have had a substantial impact on these traditional undertakings (Holmes 1986:109-110, 116-121).

Small-scale farming on the natural levees continued in the Barataria Basin into recent decades. However, between 1930 and 1978, the number of farms in Jefferson Parish decreased by 63 percent, and this development was generally paralleled in the Barataria area (Holmes 1986:116). Notable changes in the local landscape were made with two major land reclamation projects in the years around World War I: Clovelly Farms and Delta Farms. Using a system of dikes and pumps, marshland was drained for residential development and agricultural use. Corn, sugar cane, potatoes, vegetables, and cotton were raised in the Clovelly lands and lead to the development of the small community of Clovelly, on the western boundary of the project area (Perrault and Pearson 1994:63). Most of the Delta Farms projects, however, were doomed to failure due to inundation and subsidence. The farms and residential areas were completely abandoned after 1971 and have either been reclaimed by the marsh or turned over to oil and gas extraction (Perrault and Pearson 1994:64).

Oil exploration and extraction has been a major component in the twentieth-century history of the Barataria Basin. In 1935, Texaco discovered the Lafitte Oil Field, and subsequently pipelines were extended from the field to the Mississippi River and to refineries at Grand Ecaille. The Barataria Oil Field was discovered in 1939, and the Lake Salvador and Delta Farms Fields in 1940. Numerous subsidiary fields have been opened in the half-century since the oil industry arrived in the Barataria Basin. In the developmental period, oil field workers lived in houseboats or oil field camps, and subsequently the towns of Lafitte, Barataria, and Crown Point grew as residential communities for oil field workers (Holmes 1986:122).

At present, the Barataria Basin exhibits a diversity of characteristics, with natural features and land use patterns reflecting the survival of traditional ways of life in the area, and also the impact of modern developmental and industrial activities. Natural processes have been intensified by industrial development and have resulted in increased wetland loss, coastal erosion, subsidence, and saltwater intrusion. In particular, coastal land loss has accelerated to the point that predictions were made in the 1980s that Lafourche Parish could be destroyed within 205 years (Penland et al. 1990:695). While the coastal erosion levels have fallen below 1980s predictions, the rate of land loss is nonetheless catastrophic.

The anticipated loss of Isles Dernieres will have major impacts on Lafourche Parish (Penland et al. 1990:691). The erosion of the barrier islands has accelerated interior wetland loss and increased saltwater intrusion within Lafourche Parish. Saltwater intrusion causes the death of marsh vegetation and increased instability of the land. The instability and erosion of landforms causes elevated natural levees, which are often the locations of prehistoric cultural resources, to subside. Landforms that would serve as visible markers of probable prehistoric habitation thus lie below the current land surface. As a result of the above processes, caused and/or accelerated by industrial development, the ground truthing of predictive models of archeological site location relying on specific landforms presents unique challenges.

# CHAPTER 5
# PREVIOUS INVESTIGATIONS

The earliest systematic survey in the vicinity of the project area was conducted by Collins (1927) for the Smithsonian Institution. He visited sites in Plaquemines, Terrebonne, and Vermillion parishes, and he also spent time in the Bayou L'Ours area in Lafourche Parish. It is possible that Collins visited the Toups site (16LF1), on the east bank of West Fork Bayou L'Ours (Neuman 1984:42).

A total of six sites lie within a one-mile radius of 16LF19 and 16LF261. These are 16LF18, 16LF20, 16LF21, 16JE19, 16JE20, and 16JE145 (Figure 2). Most of these are discussed in detail with their appropriate reports. Those not included in reports are summarized at the end of this chapter.

## McIntire (1954, 1958)

McIntire's (1954, 1958) survey of coastal Louisiana was directed toward reconstruction of the sequence of Holocene events by correlating geomorphic features and the ages of prehistoric sites. He recorded 10 sites in the vicinity of the current project area (16LF18-16LF27), but he did not provide descriptions of individual sites in his reports. One of the sites visited by McIntire, 16LF19, is the subject of the current investigations. Other sites visited by McIntire include 16LF18, 16LF20, 16LF21, 16JE19, and 16JE20.

16LF18 was reported by McIntire in 1952 as a shell ridge and midden measuring 330 x 50 m (Louisiana State Site Files). It is located to the east of 16LF19 on a subsided natural levee at the edge of a marsh on Little Lake. Prehistoric sherds and historic material were collected from the site by previous investigators, but these were not temporally diagnostic. In 1993, the site was in good condition, and it was recorded as being potentially eligible for nomination to the National Register (Louisiana State Site Files, Perrault and Pearson 1994). Results of investigations by ESI at 16LF18 are summarized below.

16LF19 was recorded as a shell ridge and midden measuring 500 x 20 m. The site is located on a subsided levee at the edge of a marsh on Little Lake. The June 1993 site update form indicates the site has Coles Creek period, Plaquemine/Mississippi period, and nineteenth- to early-twentieth-century components (Louisiana State Site Files). On this form, the research potential of the site was recorded as being poor, and the site was evaluated as ineligible for nomination to the NRHP. However, an October 1993 update form states the shell ridge was in good condition, and that the site was potentially eligible for nomination to the NRHP (Louisiana State Site Files). The 1995 update form supports the conclusion that 16LF19 is potentially eligible for nomination to the NRHP (Louisiana State Site Files, Dawdy et al. 1995). Results of the 1995 ESI investigations are summarized below. Results of the current investigations at 16LF19 are presented in the following chapter.

16LF20 is a shell ridge and midden located at the edge of a marsh on Little Lake. It was recorded as measuring 330 x 50 m and is situated on a natural levee. A Site Record Update Form dated October 1993 states the site has a possible Coles Creek component. The site was recorded as being in good condition, and it was evaluated as potentially eligible for nomination to the National Register (Louisiana State Site Files, Perrault and Pearson 1994). Results of investigations by Coastal Environments, Inc. (CEI), at 16LF20 are summarized below.

16LF21 was recorded as a beach deposit located on the northwest shore of Little Lake (Louisiana State Site Files). A surface collection was made, although there is no description of the cultural material, except shell, on the site form. Investigations by CEI at 16LF21 are summarized below.

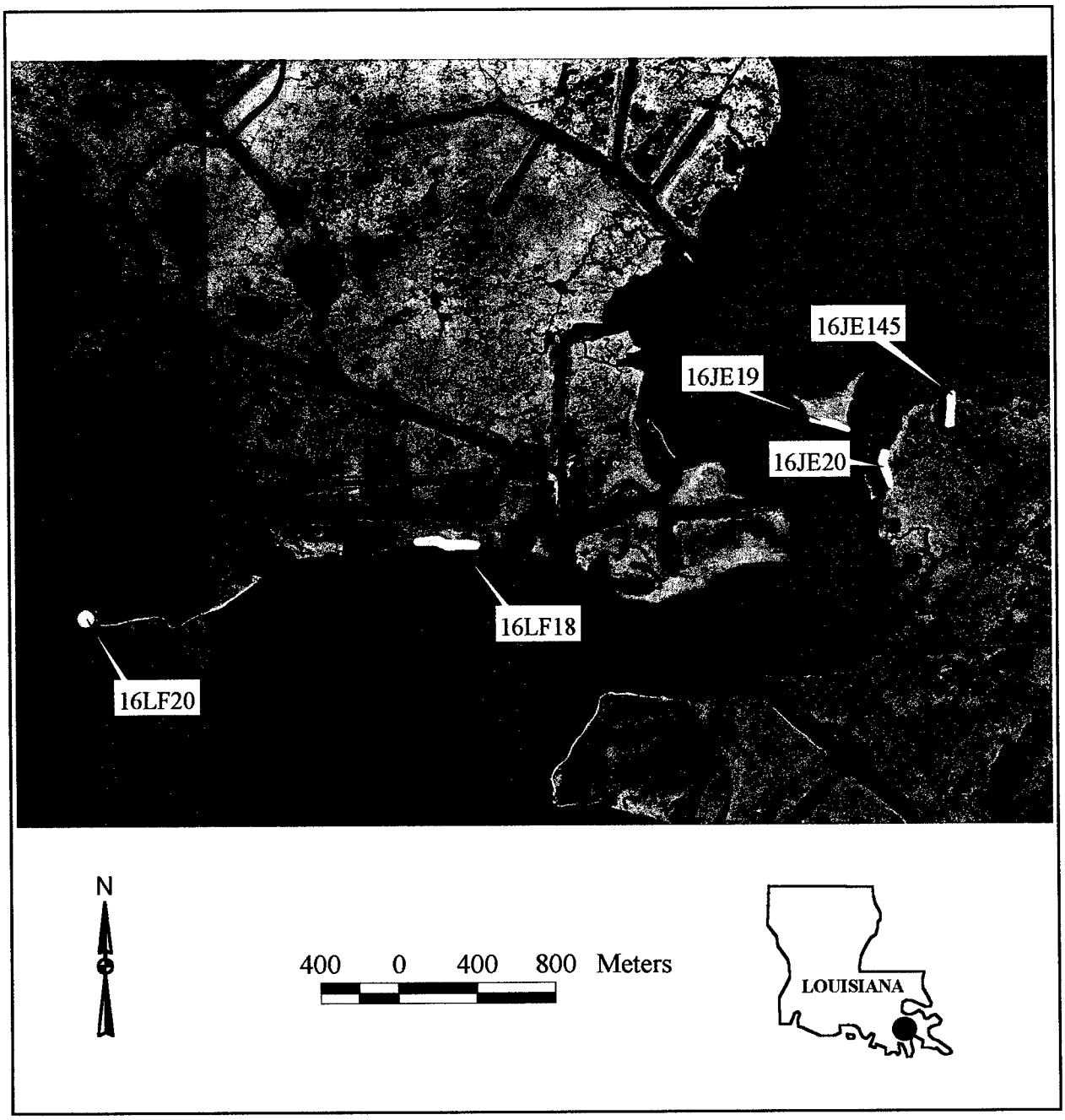


Figure 2. Excerpt from color infrared orthophotos, NE and NW quadrants of Bay L'Ours Quadrangle, LA, LOSCO (1999) showing the locations of archaeological sites within a one mile radius of 16LF19 and 16LF261.

**Phillips (1970)**

Phillips (1970) subsequently used data presented by McIntire and other researchers in his synthesis of the culture history of the Lower Mississippi Valley. Sites presented by Phillips (1970:Figure 447) in the region include Camardelle (16SC5), Temple Mound (16LF4), Bayou Matherne (16LF3), and Toups (16LF1). These sites, which are located along the west side of Lake Salvador and Bayou Lafourche, exhibit Bayou Petre phase components. Bayou Petre is a late coastal phase distinguished by the use of eastern Gulf coast ceramic types (Phillips 1970:952). One of Phillips' objectives was to define the Bayou Petre phase and determine the differences between Bayou Petre and Delta Natchezan. He utilized Moundville, Fort Walton, and Pensacola Incised, limestone tempered Fatherland and Natchez Incised, and limestone tempered plainwares as markers for Bayou Petre. Fatherland and Natchez Incised in combination with Plaquemine types such as Plaquemine Brushed, Manchac Incised (Mazique Incised, *var. Manchac*), and Maddox Engraved were utilized to distinguish Delta Natchezan (Phillips 1970:953). Because the Plaquemine types also occur in Bayou Petre, Phillips (1970:953) noted that their presence alone was not diagnostic, unless they contained the characteristic Bayou Petre limestone tempering.

**Neuman (1973)**

Neuman (1973) conducted an inventory of archaeological sites between the Sabine and Pearl rivers for the National Park Service. While most of his work was archival, he did mention site 16LF19, but provided little information about it. He wrote that 16LF19 was a shell midden of unknown size and cultural affiliation. Neuman (1976) revisited the area in a helicopter survey but did not record any additional information about the sites examined during the current project.

**Gagliano et al. (1975)**

In the mid-1970s, Gagliano et al. (1975) conducted a cultural resources survey of the Gulf Intracoastal Waterway for the New Orleans District, Corps of Engineers. As part of the archaeological investigations, an extensive geomorphologic history of coastal Louisiana was developed. By correlating the evidence of prehistoric settlement with environmental and geological changes in the vicinity, a basic predictive model for site presence was developed.

**Weinstein and Gagliano (1985)**

Weinstein and Gagliano (1985) used archaeological investigations and geomorphic studies to summarize the geologic history of the Mississippi Deltaic plain and the settlement patterns of prehistoric groups in the region. The section on geologic history presented an updated interpretation of McIntire (1958) and Gagliano et al. (1975). Weinstein and Gagliano (1985) stated that Bayou Lafourche began forming ca. 4800 years ago and continued to extend its natural levees as far south as Thibodaux. A large portion of the Mississippi River flow subsequently diverted to Bayou Lafourche. Bayou Lafourche was subsequently able to cut through and occasionally reoccupy the relict east courses of the Teche system. The sequence reached its full potential about 2000 years ago and continued until the source of the bayou was closed artificially in 1904 (Weinstein and Gagliano 1985:123).

Weinstein and Gagliano (1985:Figure 5) also discussed site location on the deltaic plain. They concluded that prehistoric groups preferred to occupy natural levees at the junction of distributaries. During the Baytown period, the Lafourche-Terrebonne delta formed as the major lobe of the Mississippi, and Bayou L'Ours became a prominent distributary flowing to the east. There was a major reduction in the amount of water that Bayou L'Ours derived from the Mississippi River during the subsequent Coles Creek period. Coles Creek is distinguished by a population increase within the Louisiana coastal area. Weinstein and Gagliano (1985:27) suggested that

Marksville and earlier Baytown period sites could be found along distributaries in this region, but Pearson et al. (1989), in their survey at Golden Ranch Plantation, found no sites earlier than late Baytown. The present archaeological evidence suggests that the landforms in the area were formed approximately A.D. 400 or later (Perrault and Pearson 1994:27).

**Poplin et al. (1986)**

Poplin et al. (1986) conducted a cultural resources survey for a hurricane protection levee in the Bayou Lafourche area between Larose and Golden Meadow. This area is west of the current project area. Seventeen sites were recorded in the greater project area, most lying east of Bayou Lafourche. It was concluded that many of the sites were seasonally occupied and related to the exploitation of specific resources that were located at or near the sites (Poplin et al. 1986:39). Troyville, Coles Creek, Plaquemine, and Mississippi period sites were associated with *Rangia* shell middens.

**Goodwin et al. (1991)**

R. Christopher Goodwin and Associates, Inc. (RCG&A), conducted a cultural resources survey of a levee corridor and several borrow pits along West Fork Bayou L'Ours natural levee and the drained backswamp between West Fork Bayou L'Ours and Bayou Raphael. The only archeological site observed in the project area was Bayou L'Ours Mounds (16LF54). Two earthen mounds surrounded by shell middens and a village were observed. Shovel and auger tests and test units were excavated at the site. Diagnostic artifacts recovered during fieldwork demonstrated that there were Troyville through Mississippi period components present at the site, along with a possible late Marksville component (Goodwin et al. 1991:68).

**Perrault and Pearson (1994)**

Another cultural resources survey in the vicinity of the present project area was conducted by Perrault and Pearson (1994). The investigations were carried out for the Bayou L'Ours Shoreline Protection and Marsh Restoration project. The project area was bordered on the north by the Gulf Intracoastal Waterway, on the east and southeast by Little Lake and Bay L'Ours, and on the west and south by the natural levees of Bayou Lafourche and Bayou L'Ours. The survey was conducted at the locations of six flap gates, ten plugs, three rock weirs, 14 canal closures, and 11 fixed crest weirs. Fourteen sites were recorded and 12 sites were revisited in or immediately adjacent to the project area. Prehistoric components at the sites dated to the Baytown, Coles Creek, and Mississippi periods. The historic occupations dated from the mid-eighteenth-century into the twentieth-century. Seventeen sites near the current project area were visited during this survey. 16LF19 and 16LF261 were among those visited. Both historic and prehistoric ceramics were collected from 16LF19, which was listed as more or less intact, with non-eroded *in situ* deposits. Additional sites visited during the survey included 16LF20, 16LF21, and 16JE19.

Site 16LF261 was recorded during the CEI survey. Because the site was located outside the construction areas, extensive testing was not undertaken. The site is situated on the west bank of Bayou Perot north of Little Lake. The site consisted of a *Rangia* shell deposit approximately 260 m north/south and 100 m east/west (Perrault and Pearson 1994:96). The site has been impacted along its west side by an oil well canal. The exact width of the site could not be determined because the field crew could not cross the canal; however, scattered shell was visible along the west canal bank. Compact shell was encountered in several probe tests. This was presumed to represent intact midden, and extended from 1 to 2 m below surface (Perrault and Pearson 1994:96). Only aboriginal sherds were recovered at the site. The sherds, Baytown Plain, *var. unspecified*, and Coles Creek Incised, *var. unspecified*, suggested a Coles Creek period of occupation. The likely presence of intact midden at 16LF261 indicated that the site was potentially eligible for nomination to the National Register. No additional work was recommended

because the site would not be impacted by the proposed restoration project (Perrault and Pearson 1994:97).

At the time of the CEI survey, 16LF20 consisted of a 400 m long, 20 m wide *Rangia* shell ridge extending north/south perpendicular to the Little Lake shoreline and parallel to an oil well canal (Perrault and Pearson 1994:78). Modern fishing camps had been constructed on the shell ridge. Probing and auger tests at the site revealed dense, compact shell deposits representing intact midden across the site and extending beyond the exposed shell ridge (Perrault and Pearson 1994:78-80). Baytown Plain, *var. unspecified* sherds were surface collected. The site was evaluated as potentially eligible for nomination to the NRHP (Perrault and Pearson 1994:82).

At the time of the CEI survey, 16LF21 consisted of a 370 m long ridge of wave washed *Rangia* shell on the northwest shore of Little Lake. Surface collected sherds from the site suggest a Coles Creek period occupation. Shell deposits on the beach are all secondary; intact midden lies offshore. The offshore shell midden was approximately 145 m x 40 m (Perrault and Pearson 1994:82).

The Little Temple site (16JE19) was briefly revisited to examine its condition. This site is a *Rangia* shell ridge located at the intersection of Bayous Perot and Rigolettes. Originally, the site was the location of several large prehistoric shell mounds. It was also the location of one of Jean Lafitte's bases (Perrault and Pearson 1994:101). Throughout the nineteenth century the mounds were destroyed as the shells were mined for construction uses in the region.

In 1994, the site was 200 m long and consisted entirely of redeposited shell. No intact shell deposits were observed or encountered during probing. Artifacts collected from the surface of the shell ridge included prehistoric sherds and historic material such as glass, bricks, and ceramics. The prehistoric sherds appear to date to a Coles Creek period occupation while the historic materials are from the late-nineteenth and early-twentieth centuries. Perrault and Pearson suggest that 16JE19 has been totally destroyed (1994:101).

**Dawdy et al. (1995)**

Dawdy et al. (1995) performed the most recent investigation in the project area. This investigation was conducted for the U.S. Department of Agriculture, Natural Resources Conservation Service's Bayou L'Ours Shoreline Protection and Marsh Restoration Project. This work was an extension of the investigation of Perrault and Pearson (1994), intended to evaluate sites identified by them and also to survey previously untested areas along the western shore of Bayou Perot. This new survey area held several construction areas; at eight of them fixed-crest weirs with boat bays were planned at the mouths of oilfield or pipeline canals. At three construction areas, wellhead canals were to be closed by plugs with flap-gate culverts. At six more construction areas wellhead canals were to be closed by simple plugs. One further construction project involved the construction of a plug to close a lagoon crossing a pipeline canal. Investigations were undertaken at 16LF18, 16LF19, and 16LF20.

In 1995, site 16LF18 was composed almost entirely of *Rangia cuneata* shell redeposited by wave action. In the center of the site, a higher shell ridge jutted south into the lake as a small point, partially covered by brush and small trees. Large dead trees lay in the lake south of the shell ridge. The widest portion of the shell ridge, at site center, was 15 m N/S. Dead trees, tree stumps, and palmettos extend 90 m E/W along the lakeshore adjacent to the site center. A firm lake bottom extended out from the shoreline in this area. The ridge of redeposited shell extended a total of 313 m east/west. Charred pilings recorded in the marsh north of the shell ridge were the remains of a modern hunting/fishing camp. Auger tests were excavated parallel to the lakeshore. These were all negative except for a small area lying approximately in the center of the east/west beach ridge. *Rangia* shell and "shell hash" midden were recorded in two auger tests.

No artifacts were recovered from the auger tests. Baytown Plain, *var. unspecified* sherds were collected from the surface. Most of the site was originally located within the present extent of Little Lake. *Rangia* has been deposited along the retreating lakeshore east and west of the shell ridge as erosion has exposed the shell midden to wave action. The relatively shallow depth of the midden found during augering suggested that most of the shell midden within the lake had been destroyed. The probable area of intact midden on land was indicated by the presence of trees located on an elevated portion of the shoreline. Within the lake, probable midden was indicated by tree stumps and palmettos on a firm lake bottom. However, the extensive erosion had compromised the site's integrity, and the paucity of cultural material recovered here indicated that 16LF18 is ineligible for nomination to the National Register of Historic Places (Dawdy et al. 1995:49-50).

Site 16LF19 exhibited an east/west shell ridge composed almost completely of Rangia redeposited by wave action. In the center of the site was a higher shell ridge, partially covered with brush and small to medium trees. This shell ridge jutted south into the lake as a small point, more prominent than that at site 16LF18. The widest portion of the shell ridge, at site center, was 15-20 m north/south; the north/south width from the southernmost tree in the lake was 30 m. It was assumed that the higher shell ridge plus the adjacent area of submerged trees in Little Lake represented the original center of an extensive shell midden. This projected area was 70 m long east/west. A firm lake bottom extended out from the shoreline in this area. The ridge of redeposited shell extended 935 m E/W; this low shell ridge extended east 485 m onto a peninsula between Little Lake and a marshy lagoon (formerly a bounded marsh lake). The redeposited shell extended west 450 m to the eastern side of the north/south oil field canal near 16LF20 (Dawdy et al. 1995:55-56).

At some point between 1973 and 1984 an access canal to the center of 16LF19 had been excavated. This canal extended eastward from the north/south oil field canal near 16LF20, then crossed a relict march channel and curved southeast. The canal widened into a small turning basin at its head, behind the highest part of the shell ridge. A derelict boardwalk dock extended into the western end of the turning basin. A small shed on high wood pilings at the eastern end of the turning basin, just north of datum, was the only intact building at the site. Additional, pilings and support posts represented the remains of additional modern hunting/fishing camp structures.

Auger tests parallel to the lakeshore were all negative, as were auger tests placed northeast of the site access canal. Auger tests at the edge of beach by the site center revealed 35-40 cm of loose shell and "shell hash" above a stratum of shell within a 10YR 2/2 (very dark brown) silty clay matrix. The shell extended to a depth greater than 1 m in this area, however, the maximum depth of the shell stratum could not be determined due to rapid infilling of the auger holes. Although no artifacts were recovered during augering, the presence of extensive intact midden at the site indicated that 16LF19 is eligible for nomination to the NRHP.

Prehistoric sherds, historic ceramics and glass were collected from the site surface. Based on the ceramics, the prehistoric component at 16LF19 appeared to be primarily early to middle Coles Creek with a minor Mississippi period occupation. The majority of the sherds from this site were undecorated. These were identified as Baytown Plain, *var. unspecified*; Baytown Plain, *var. #1*; and Mississippi Plain, *var. unspecified.* The only identified decorated types at the site are Evansville Punctated, *var. unspecified*, and Gainesville Complicated Stamped, *var. Wauchope.* The presence of these types, especially the latter, suggest a Bayou Ramos phase date (Brown 1982, 1984; Fuller and Fuller 1987:78-86; Kidder 1995:49). Three shell-tempered sherds are the only indication of a Mississippi period component.

Historic material collected at the site included white slip-decorated redware, finger-painted annular pearlware, gray salt-glazed stoneware, and a light green bottle stopper. The ce-

ramics were consistent with an early nineteenth-century context. It is possible that this material is associated with the Little Temple Site (16JE19), an alleged outpost of Jean Laffite's Barataria-ans located on a point approximately 4 km up the shoreline, where Bayou Perot empties into Little Lake. No historic features were noted, however. Most of the ceramics were waterworn. Two fragments of a clay pigeon found at the site (also waterworn) attest to the frequent use of the area for hunting in the twentieth century. A uniform scatter of modern wave-washed debris across the site reinforced the impression that most, if not all, of the cultural material had been redeposited by natural forces (Dawdy et al. 1995:63).

As summarized above, site 16LF20 was delineated by CEI. The ESI field crew conducted testing and mapping in areas of the site to determine if 16LF20 would receive any adverse impact from proposed construction. As the site had been thoroughly mapped and the impending construction clearly would not impact the overall site area, the ESI field crew confined their investigations to the southern end of 16LF20. Augering and probing showed that buried midden extended only a short distance beyond the exposed midden on the western side of the shell ridge, by a relict channel. The eastern edge of the site had been partially impacted by excavation of a north/south oil field canal. A number of modern structures (hunting/fishing camps) are present on both sides of the canal. Dredged spoil had been placed on the west side of the canal, behind a canal bank bulkhead. Modern structural debris was scattered over the southeastern end of the site area (Dawdy et al. 1995:63).

The shell midden forming 16LF20 had suffered only minor impacts from construction. It is subject to subsidence but had been exposed to erosion only within the north/south oil field canal that impacted its eastern flank. Although the density of cultural material at the site was low, the condition and accessibility of the surviving midden at 16LF20 indicated that the site is eligible for nomination to the NRHP. Planned construction would not impact the *in situ* midden at the site (Dawdy et al. 1995:67).

**Previously Recorded Sites Within One Mile of 16LF19 and 16LF261**

**16JE20.** 16JE20 is also called the Bayou Rigolettes site. As noted above, the site was originally recorded by McIntire. The site is 265 m long, and ranges in width from 2 to 50 meters. 16JE20 is a shell midden on the east bank of Bayou Rigolettes near its confluence with Bayou Perot. Archaeologists with RCG&A surveyed the site (Louisiana State Site Files). They found some *in situ* midden at the site, but concluded that construction and operation of an oil storage facility had caused major disturbance to the site. Artifacts collected included prehistoric sherds, historic ceramics, and bone. The site was evaluated as ineligible for nomination to the NRHP (Louisiana State Site Files).

**16JE145.** 16JE145 was recorded by RCG&A in 1984 (Louisiana State Site Files). The site is lies on the east bank of Bayou Rigolettes, approximately 500 m northeast of the confluence with Bayou Perot. The site is a 65 m long historic surface scatter. Cultural materials collected from the site include oyster shells, historic ceramics, glass, bone, and slag. No intact midden was noted at the site. The site was evaluated as ineligible for nomination to the NRHP (Louisiana State Site Files).

# CHAPTER 6
# ARCHEOLOGICAL INVESTIGATIONS

## Methodology

Prior to the commencement of fieldwork, a comprehensive literature search and records review was performed. Background research included examination of records on file at the Division of Archaeology. Cultural resources reports and site files, geomorphological data, and maps were examined and reviewed. The background research provides historical contexts within which the significance of the tested sites can be evaluated. Specifically, reports submitted by Perrault and Pearson (1994) and Dawdy et al. (1995) were utilized to minimize duplication of previous investigations. Background research was performed for 16LF19 and 16LF261 (Barataria Land Bridge project area).

Archeological testing included shovel and auger tests to determine the horizontal and vertical dimensions of each of the two sites. Generally shovel tests were excavated to the base of the loose, wave-washed shell deposits; then auger tests were excavated in the base of the shovel tests. Test intervals were 10 m at 16LF19 and 30 m at 16LF261. Testing continued until at least two consecutive negative tests were excavated. All excavated soils were screened through 1/4-in mesh. Soil types that could not be effectively screened (e.g. stiff clays and marsh peats) were carefully trowel-sorted and examined for cultural materials. Soil characteristics and stratigraphic associations of all tests were recorded. All cultural materials were collected and returned to the laboratory for analysis and curation. All tests were backfilled upon completion. General surface collections were made at both sites. Neither site exhibited extensive surface scatter that warranted systematic surface collections. A 1 x 1 m test unit was excavated at 16LF261 to determine if intact midden was present at the site. No 1 x 1 m test unit was dug at 16LF19 because intact midden at the site was too deeply buried to permit efficient and safe excavations.

Permanent site data were established at each site. Horizontal limits of each site were marked by one inch PVC pipe. Site maps utilizing compass and tape were drawn. Additionally, GPS points were taken at each site. Site maps include the locations of data, shovel and auger tests, the extent of surface scatter, site limits, and any topographic features or landmarks that were visible. Photographs were also taken. Louisiana State site update forms were completed for each site. Sites were evaluated as eligible, potentially eligible, or ineligible for nomination to the NRHP.

Artifacts were washed and placed in plastic zip-lock bags with provenience information written in permanent ink on the outside. Labeling and cataloguing were conducted in accordance with the standards of the Louisiana Division of Archeology. Artifacts will be curated at the Louisiana Division of Archeology, Baton Rouge, Louisiana.

The prehistoric ceramics were classified according to standard methodologies developed in the Lower Mississippi Valley. Sherds were sorted into temper categories corresponding to published ceramic types and, where possible, decorated pottery was further divided into varieties based on specific decorative criteria. The type-variety nomenclature used is based on the original formulations of Phillips (1970) and supplemented by descriptions of pottery from nearby sites and aboriginal components. Historic ceramics were sorted using the classification presented in Yakubik (1990).

## Results

**16LF19**. As noted in the previous investigations, site 16LF19 was reported by McIntire in 1952, updated by CEI in 1993, and tested by ESI in 1995. At the time of the 1995 investigations by ESI, the site consisted of a beach ridge of wave-washed, redeposited *Rangia* shell meas-

uring approximately 935 m east/west and 15-20 m north/south. Intact midden at the site was estimated to be 45-50 m north/south and 70 m east/west including a submerged area to the south of datum (Figure 3). The site was determined to be eligible for nomination to the NRHP. The current investigations were designed to update the site's extent and NRHP status. Subsidence and erosion are active in the area, and additional investigations were necessary to address their impacts since the 1995 testing.

The current investigations at 16LF19 began with the relocation of the permanent datum established in 1995. The PVC pipes placed to mark the east/west extent of intact midden are gone. Continued erosion, subsidence, and the removal of a camp structure have changed the appearance of 16LF19. The Little Lake shoreline is approximately 5 m north of its 1995 position (Figure 4). The ridge of wave-washed shell is still present, though narrower in its north/south extent. The trees noted in the lake in 1995 have now fallen and been washed south and southwest of datum (Figure 5). The eastern palmetto drawn on the 1995 map is gone, and the western one is more than 6 m south of the shoreline. Support posts for the building, boardwalk, and other structures are still in place, although some are now submerged or covered by wave-washed shell.

Shovel and auger testing was undertaken at 10 m intervals along the shell ridge from datum. The first test was excavated 5 m southwest of datum and approximately 1.5 m north of the shoreline. Tests were then excavated to the east and west along the shoreline. A second row of tests were excavated 5 m north of this transect to the east of datum. A second transect was not excavated to the west of datum because the shell ridge was too narrow.

A total of 15 tests were excavated at 16LF19 (Figure 4). Of these, nine were positive for midden. Table 2 details the stratigraphy recorded in each test. Figure 6 presents a conceptualized profile of the stratigraphy at 16LF19. The results of the shovel and auger tests indicate that intact midden is present at the site from datum 25 m to the west and 30 m to the east. The midden generally begins at 35-40 cmbs and extends to a depth of at least 100 cmbs. The midden ranged in color from black (10YR 2/1 and 2.5Y 2/1) to very dark brown (10YR 2/2) or very dark grayish brown (10YR 3/2). Below the midden is marsh peat and semi-fluid to fluid muck. The peat is black to very dark gray (10YR 2/1 to 10YR 3/1). The muck is generally gray to very dark gray (10YR 5/1 to 10YR 3/1). In areas where there was no midden, the redeposited shell directly overlies the marsh peat and muck. Auger testing was hampered by the high water table (essentially the lake level) that tended to infill the auger hole. The soil profiles recorded at 16LF19 are very typical of the Lafitte-Clovelly association (Matthews 1984:53 and 56). The midden was distinguishable from the natural strata by the presence of *Rangia* shells and shell hash, the presence of ash, and a reduction or absence of herbaceous fibers.

One historic sherd, a water-worn fragment of shell edged whiteware, was recovered from within the loose shell stratum in a shovel test. A total of nine prehistoric sherds were gathered from the general surface collection (Table 3). Artifact density was too low to permit a controlled surface collection. All these sherds came from surface of the shell beach (Figure 7). Notably, modern debris, including part of a kitchen range top, bathroom fixtures, glass, and metal, as well as general flotsam are scattered across the site. Much of this modern debris is clustered along the shoreline southeast of datum (Figure 4).

The vast majority of the aboriginal sherds were very small, 4 cm in diameter or less, making classification extremely difficult, especially when using the type-variety system (Phillips 1970; Williams and Brain 1983). In addition, all the sherds were wave-worn. The continuous water action removed both the interior and exterior surfaces of the sherds from 16LF19, making it impossible to determine the level of surface treatment. The sherds were first separated into plain and decorated categories. When possible, the sherds were then classified by type and/or variety based on previously established sorting criteria.

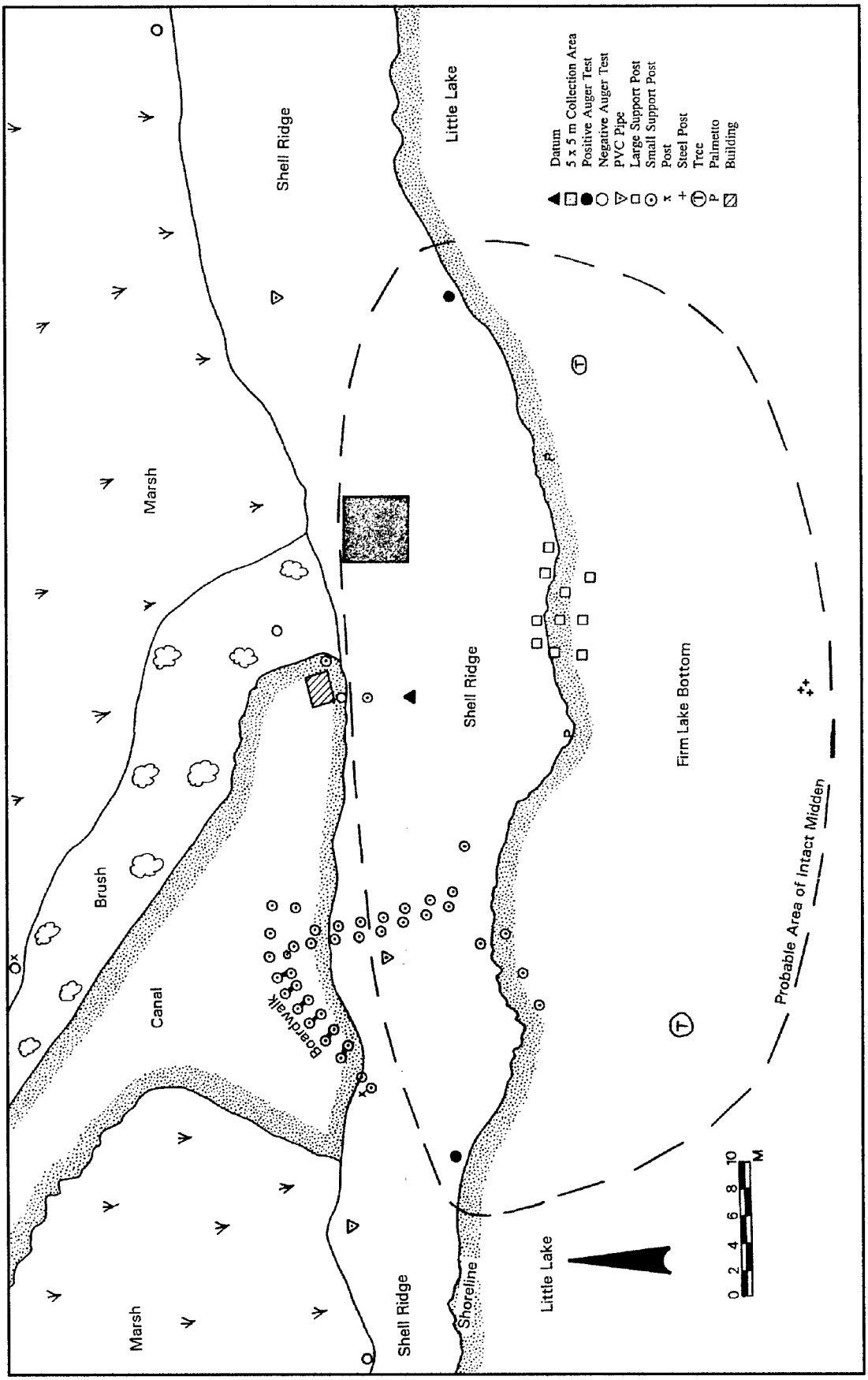


Figure 3. Site map of 16LF19 from the 1995 investigations (Dawdy et al. 1995:59).

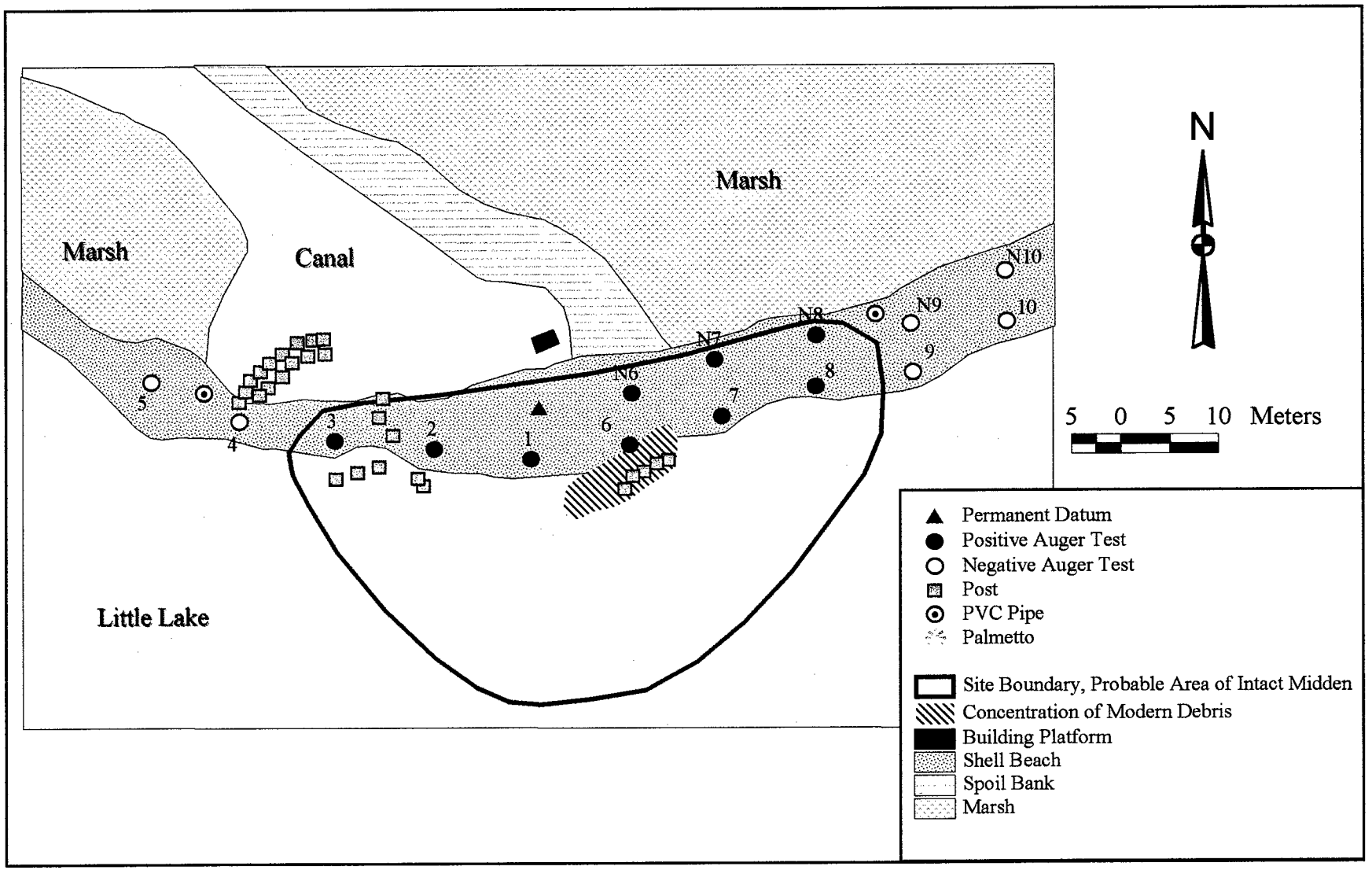


Figure 4. Site map of 16LF19 from the current investigations.

Figure 5. Photograph of 16LF19.

Table 2. Stratigraphy Recorded in Auger Tests at 16LF19.

| Test # | Stratigraphy | Remarks |
|---|---|---|
| 1 | Stratum I - Redeposited *Rangia* shell (0-40 cm); Stratum II - black (2.5Y 2/1) coarse silty clay with shell (40-100 cm) (midden); Stratum III - black (10YR 2/1) peaty muck (100-130 cm); fluid below 130 cm | |
| 2 | Stratum I - Redeposited *Rangia* shell (0-40 cm); Stratum II - black (2.5Y 2/1) silty clay with shell (40-150 cm) (midden); Stratum III - black (10YR 2/1) peaty muck (150-180 cm); fluid below 180 cm | |
| 3 | Stratum I - Redeposited *Rangia* shell (0-35 cm); Stratum II - very dark brown (10YR 2/2) silty clay with shell (40-180 cm) (midden); Stratum III - black (10YR 2/1) and dark gray (10YR 4/1) fluid muck below 180 cm | |
| 4 | Stratum I - Redeposited *Rangia* shell and carpet (0-35 cm); Stratum III - black (10YR 2/1) and gray (10YR 4/1) peaty muck (35-180 cm); fluid below 180 cm | |
| 5 | Stratum I - Redeposited *Rangia* shell (0-75 cm); Stratum III - gray (10YR 4/1) peaty muck (75-175 cm); fluid below 175 cm | |
| 6 | Stratum I - Redeposited *Rangia* shell and mixed beach soils (0-50 cm); Stratum II - very dark gray (10YR 3/1) silty clay loam with shell (50-120 cm) (midden); fluid below 120 cm | At approximately 100 cm soil matrix became gray (10YR 5/1) pure ash. This was interpreted as a possible hearth feature. |
| 7 | Stratum I - Redeposited *Rangia* shell (0-35 cm); Stratum II - very dark brown (10YR 2/2) silty clay with shell (35-100 cm) (midden); fluid muck below 100 cm | A shell-edged whiteware fragment was collected from Stratum I. |
| 8 | Stratum I - Redeposited *Rangia* shell (0-35 cm); Stratum II - very dark gray (10YR 3/1) silty clay with shell (35-100 cm) (midden); fluid muck below 100 cm | |
| 9 | Stratum I - Redeposited *Rangia* shell (0-40 cm); Stratum III - black (10YR 2/1) peaty muck (40-100 cm); fluid below 100 cm | |
| 10 | Stratum I - Redeposited *Rangia* shell (0-40 cm); Stratum III - very dark gray (10YR 3/1) peaty muck (40-100 cm); fluid below 100 cm | |
| N6 | Stratum I - Redeposited *Rangia* shell (0-70 cm); Stratum II - very dark gray (10YR 3/1) to black (10YR 2/1) silty clay with shell (70-140 cm) (midden); Stratum III - black (10YR 2/1) peaty muck; fluid below 140 cm | |
| N7 | Stratum I - Redeposited *Rangia* shell (0-70 cm); Stratum II - very dark gray (10YR 3/1) to black (10YR 2/1) silty clay with shell (70-120 cm) (midden); Stratum III - black (10YR 2/1) peaty muck; fluid below 120 cm | |
| N8 | Stratum I - Redeposited *Rangia* shell (0-80 cm); Stratum II - very dark gray (10YR 3/1) to black (10YR 2/1) silty clay with shell (80-120 cm) (midden); Stratum III - black (10YR 2/1) peaty muck; fluid below 120 cm | |
| N9 | Stratum I - Redeposited *Rangia* shell (0-50 cm); Stratum III - black (10YR 2/1) peaty muck (50-120 cm); fluid below 120 cm | |
| N10 | Stratum I - Redeposited *Rangia* shell (0-50 cm); Stratum III - black (10YR 2/1) peaty muck (50-100 cm); fluid below 100 cm | |

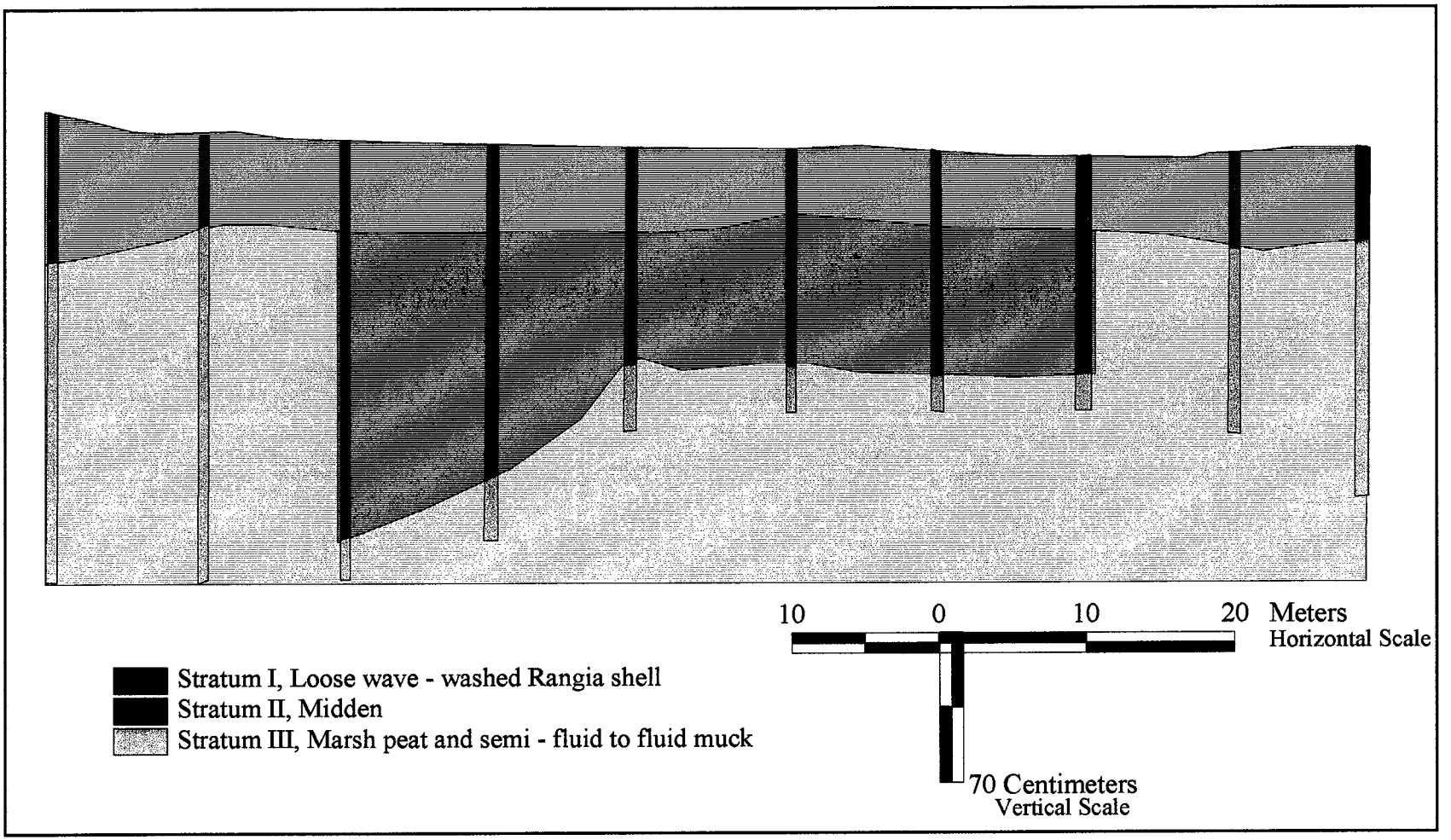


Figure 6. Midden profile of site 16LF19 showing soils in auger tests and projected soils between tests.

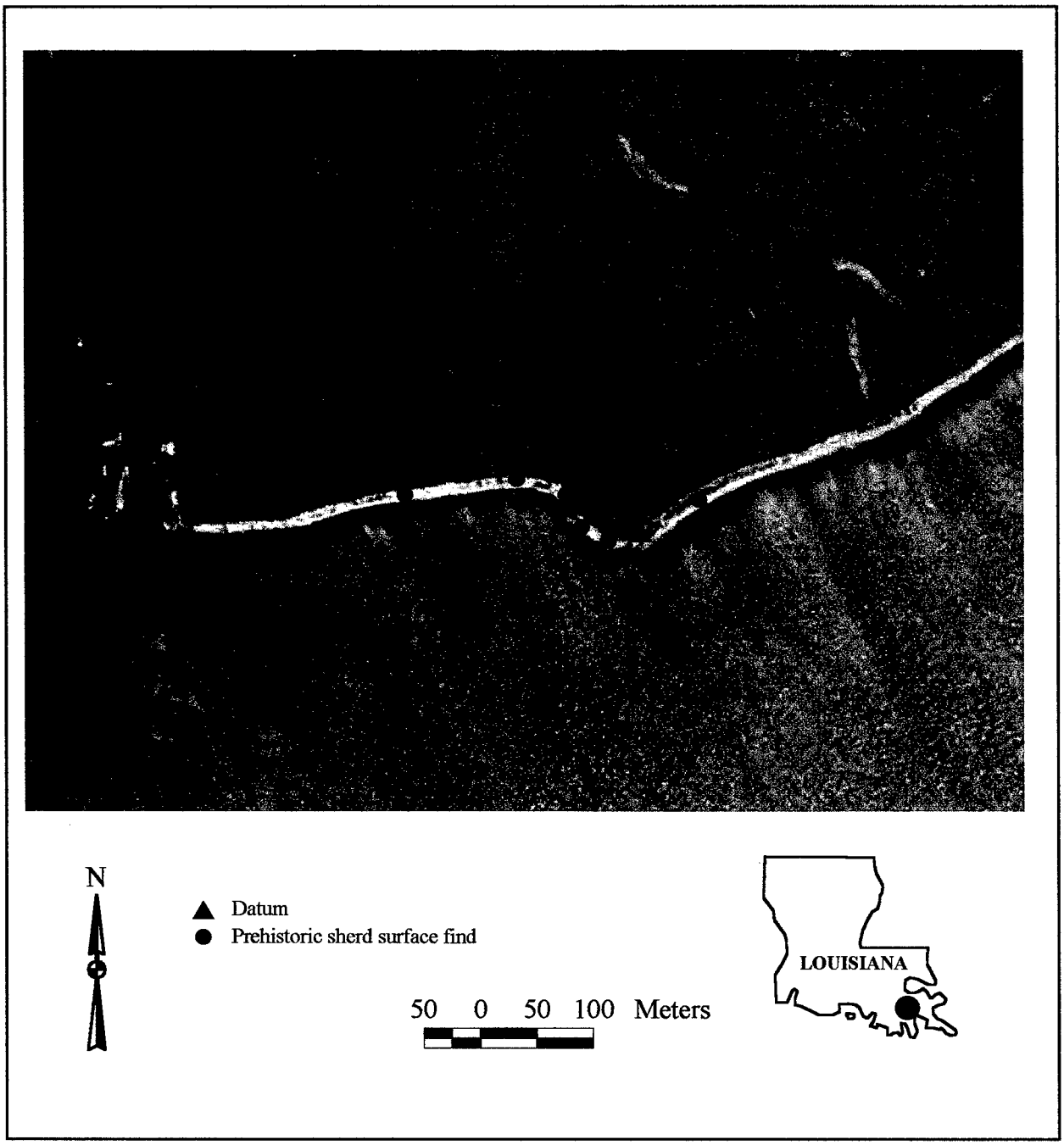


Figure 7. Plan view of site 16LF19 showing scattered location of prehistoric surface finds.

Table 3. Surface Collected Sherds from 16LF19.

| | |
|---|---|
| Historic: | |
| blue shell-edged whiteware | 1 |
| | |
| Prehistoric: | |
| Baytown Plain, *var. Addis* | 8 |
| Unclassified Incised | 1 |

Eight of the examples were undecorated body sherds. These sherds were tempered with a mixture of grog, bone, grit, and organics, fitting the sorting criteria established for Baytown Plain, *var. Addis*. Most sherds were moderately thick with medium-textured paste and medium- to small-sized chunks of temper (Phillips 1970:48-49; Williams and Brain 1983:92). The remaining sherd was decorated with a single, wet paste, incised line. It is not clear if this is the total design or not. However, it was possible to determine that the decoration was executed on a *var. Addis* ware. Rather than stretch the limited information on this specimen, it was placed in an unclassified incised category.

In the six years since the initial testing at 16LF19, there have been some superficial changes to the site. Erosion from the encroaching lake has reduced the north/south width of the site. The shell ridge is generally less than 10 m wide (north/south). Surface scatter, both historic artifacts and prehistoric sherds, is lighter. However, the auger tests clearly indicate that substantial intact midden still exists at 16LF19. The east/west extent of the intact midden is approximately 55 m. PVC pipes were placed along the ridge at the east and west extremes of the intact midden (Figure 4). The north/south extent of the midden is somewhat more problematic to define. The 1995 investigations demonstrated that no midden is extant to the north of the shell ridge at 16LF19. The earlier testing also established the presence of midden beneath the shell ridge and likely extending southward into Little Lake. The current testing confirms the presence of midden beneath the shell ridge, and we agree with earlier conclusions that much of the site to the south now lies below the surface of Little Lake. Although no artifacts were recovered from true subsurface contexts, the thickness (at least 100 cm) of the *in situ* midden and the likely presence of features, such as hearths (see Table 2: Auger Test #6), suggest that the research potential of 16LF19 is high. Site 16LF19 is eligible for nomination to the NRHP. The site should be protected and avoided during construction activities. If planned construction will have negative impacts on the site, these must be mitigated.

**16LF261**. The results of investigations by CEI at 16LF261 are presented in the previous chapter. In summary, 16LF261 consisted of a *Rangia* shell midden exposed in the west bank of Bayou Perot. It measured approximately 260 m x 100 m. A series of probes along the shore encountered compact shell, presumed to represent intact midden, which extended from about 1 m to 2 m below surface (Perrault and Pearson 1994:96). The site was evaluated as being potentially eligible for nomination to the NRHP.

The current field investigations at 16LF261 included auger testing, general surface collection, and excavation of a 1 m x 1 m test unit. Like 16LF19, 16LF261 exhibits a fairly extensive deposit of loose, wave-washed *Rangia* shell with water worn artifacts scattered along the bankline (Figure 8). As noted by CEI, a wellhead canal was excavated through the western portion of the site. The fill from the dredging was piled on the eastern side of the canal and forms a

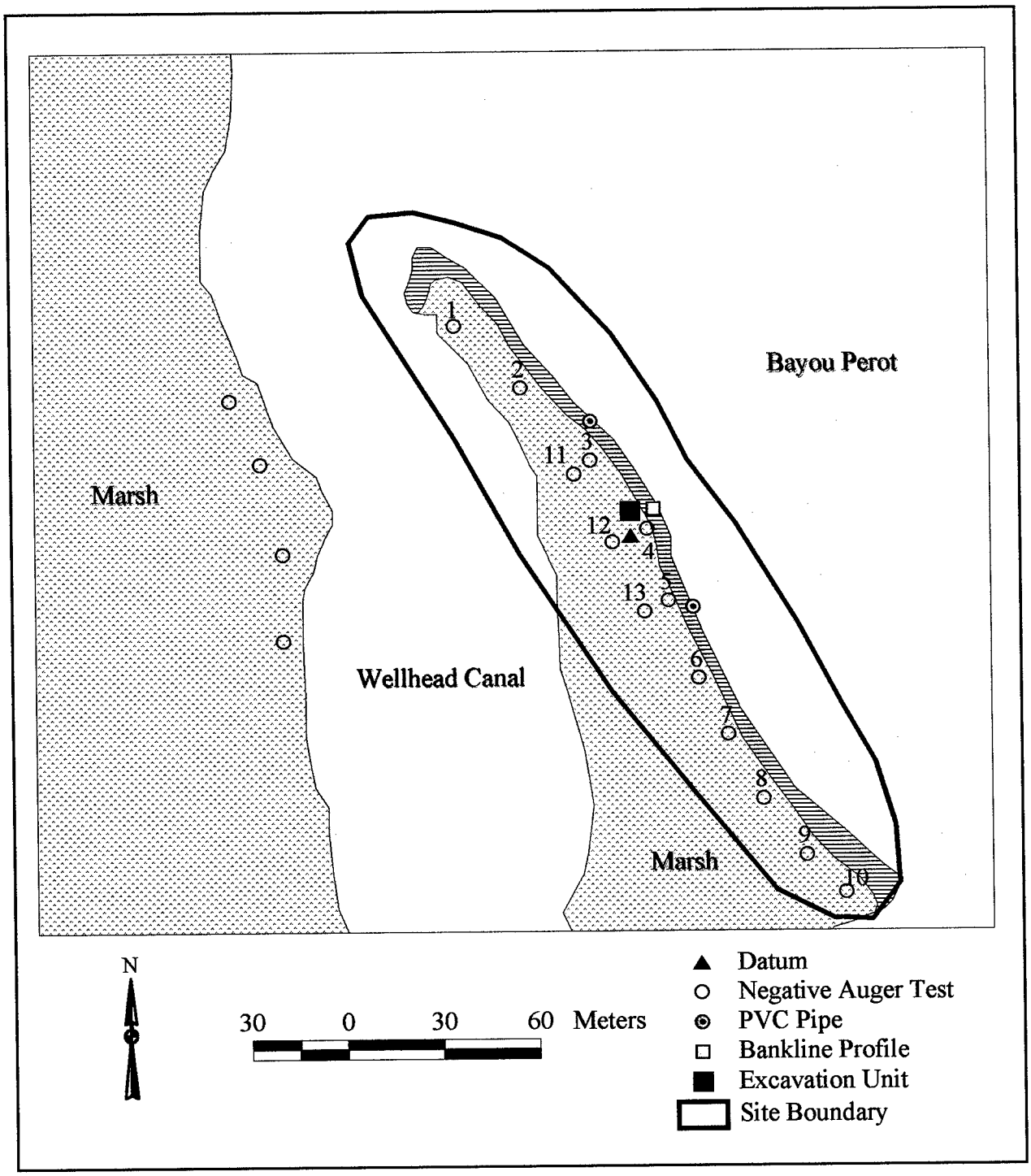


Figure 8. Site map of 16LF261.

high north/south trending ridge (Figure 9). In some areas, the ridge is more than 1-1.75 m higher than the waterline. Thick underbrush and medium sized trees (DBH=30-40 cm) cover this ridge.

In 1994, CEI noted the presence of scattered *Rangia* shell on the west bank of the wellhead canal, but were unable to test this area. During the current investigations, the ESI crew excavated four judgmental auger tests along the west bank of the canal and performed an extensive surface examination. Other than water worn shells, no artifacts or evidence of intact midden was observed. Apparently, the shells are wave-washed scatter from the site on the eastern side of the canal. The auger test profiles revealed typical marsh stratigraphy of peat overlying semi-fluid muck (Figure 10). The west bank of the wellhead canal is less than 20-25 cm higher than the waterline and less than 10 m wide (Figure 8). Small trees and brush line the bank and form the only visible separation between the canal on the east and the inundated marsh on the west.

On the eastern side of the wellhead canal, a single north/south trending transect was run between the crest of the ridge and the Bayou Perot bankline (Figure 8). Auger tests were excavated at 30 m intervals along this transect. The auger tests revealed mixed stratigraphy that confirmed that the ridge consists of redeposited spoil (Table 4). On the north end of the site, three additional auger tests were excavated to the west of the transect in an attempt to locate midden underlying the spoil ridge. A total of 13 auger tests were excavated. Although there was mixed *Rangia* shell and shell hash in many tests, only test nos. 2, 3, and 11 encountered possible midden deposits. It is not clear whether or not the possible midden in these tests is intact; however, it certainly lacks the depositional integrity of the deposits at 16LF19. Auger tests were attempted along the crest of the shell ridge, but loose shell and dense spoil prevented excavation below 75 cmbs.

What appeared to be intact midden was observed within a section of eroding bankline (Figure 8). This section was cleared and profiled (Figure 10). An unworked quartz crystal was collected during the profile cleaning. A 1 m x 1 m test unit was excavated approximately 1.5 m west of the profile. Unit datum was set in the NW corner of the unit, 10 cm above ground surface. All measurements were taken below datum (cmbd). All excavated soils, except overburden, were screened through 1/4 in mesh. The upper 20 cm of the unit were excavated as overburden/spoil. The remainder of the unit was excavated in 10 cm levels. Three strata were recorded in the unit (Figure 11).

Stratum I consisted of wave-washed *Rangia* shell in mixed gray (10YR 7/1, 10YR 4/1, and 10YR 3/1) find sand and silty clay with yellowish brown (10YR 5/6) mottling. Stratum II appeared to be redeposited midden. It was a 10-15 cm thick stratum of dark brown (7.5YR 3/4) silty clay with *Rangia* shell and shell hash. Underlying this stratum to a depth of 140 cmbd was Stratum III. This was very dark gray to black (10YR 3/1 to 10YR 2/1) silty clay. Hand excavation in the unit ceased at 100 cmbd because of water infilling. An auger test in the base of the unit encountered dark greenish gray (Gley 1, 5GY 3/1) sand at 140 cmbd. This sand became fluid below 160 cmbd.

Wave-washed *Rangia* shells, shell hash, and water worn bone fragments were observed in strata I and II. One bone is an unidentified vertebrate fragment. The other element is a fish "tilly bone". Tilly bones are common in a number of fish species. Any of various elements such as the neural spines, ribs, and pterygiophores may develop hyperostoses. The expansive swelling can appear pathological, but is actually normal and develops with age (Reitz and Wing 1999:77). Because of the water worn nature of the fragment, it was not possible to determine which element was recovered nor the species of fish represented. No artifacts were found in Stratum III or the underlying subsoil in the auger test. The very worn nature of the bone and *Rangia* shells indicate that the stratigraphy in the unit results from the redeposition of midden and spoil from another part of the site.

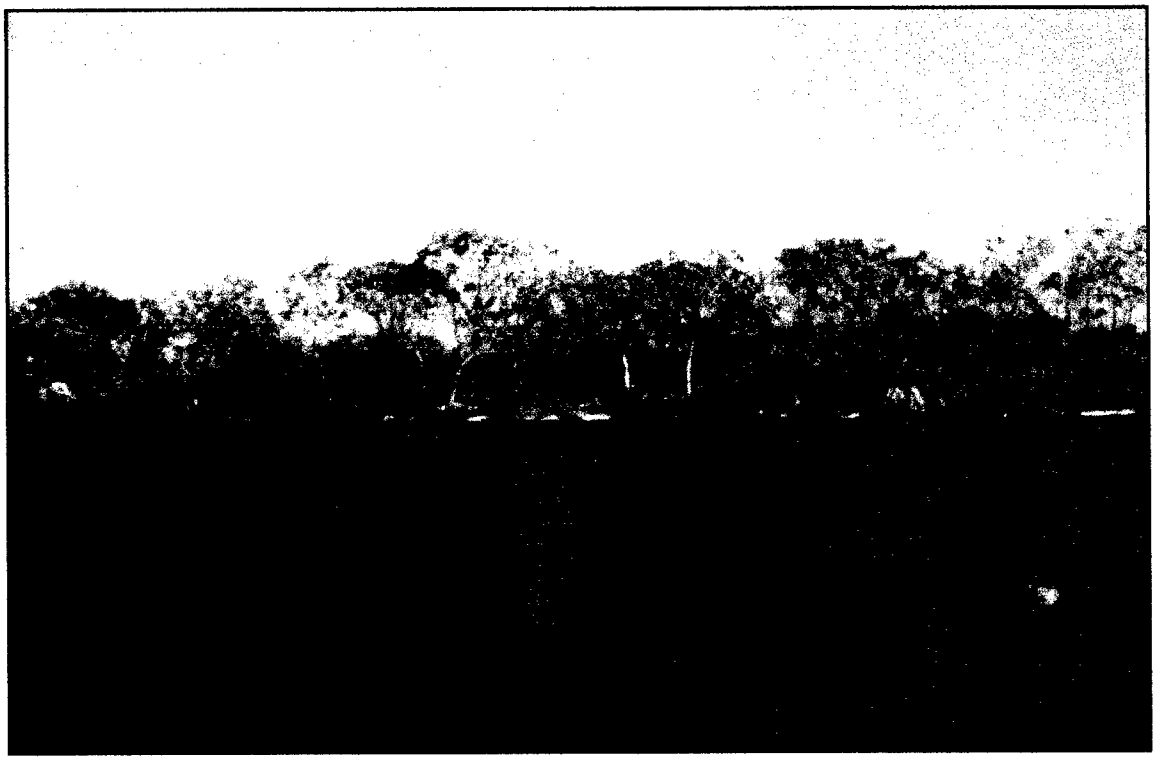

Figure 9. Photograph of 16LF261.

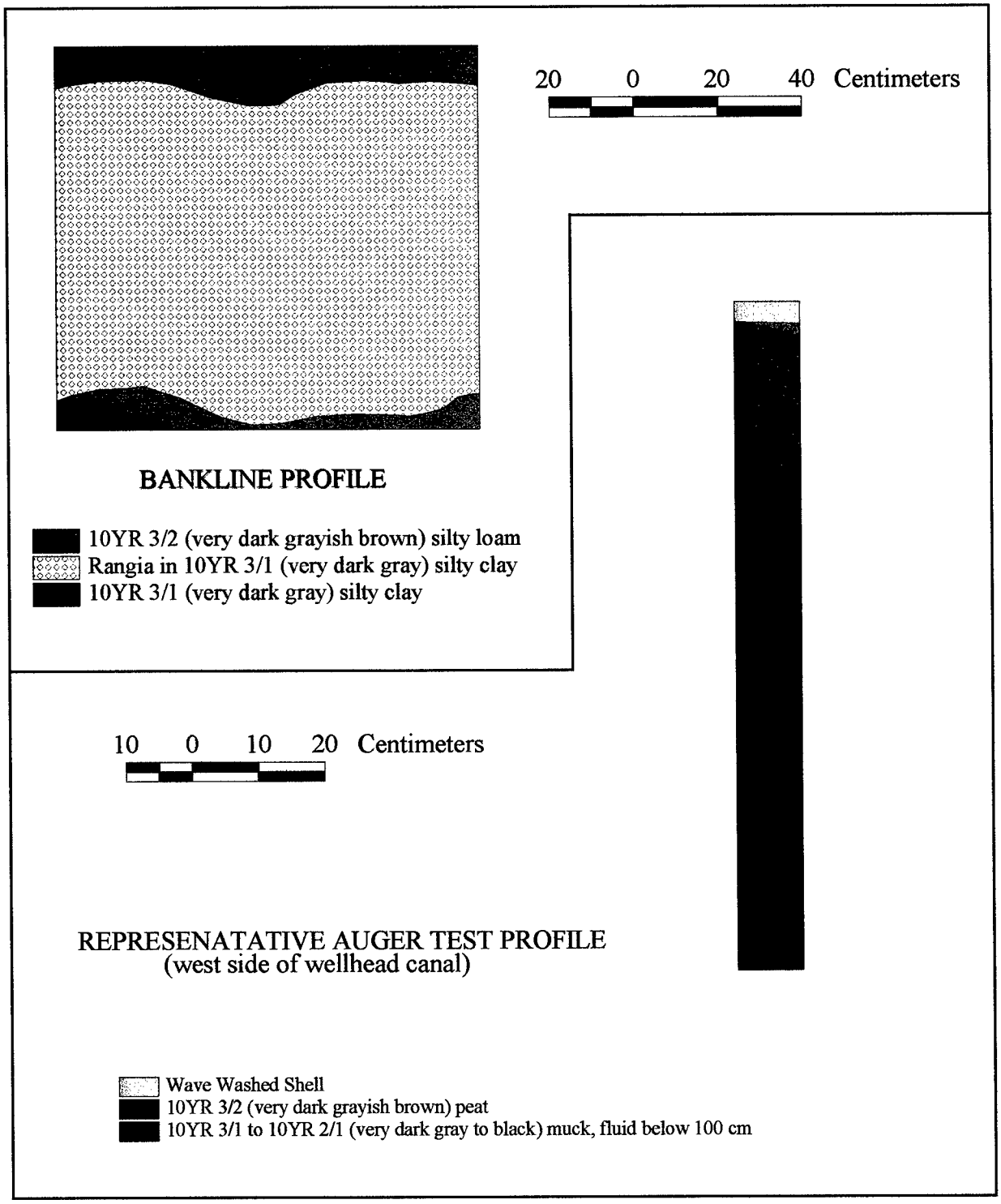


Figure 10. Soil profiles at 16LF261.

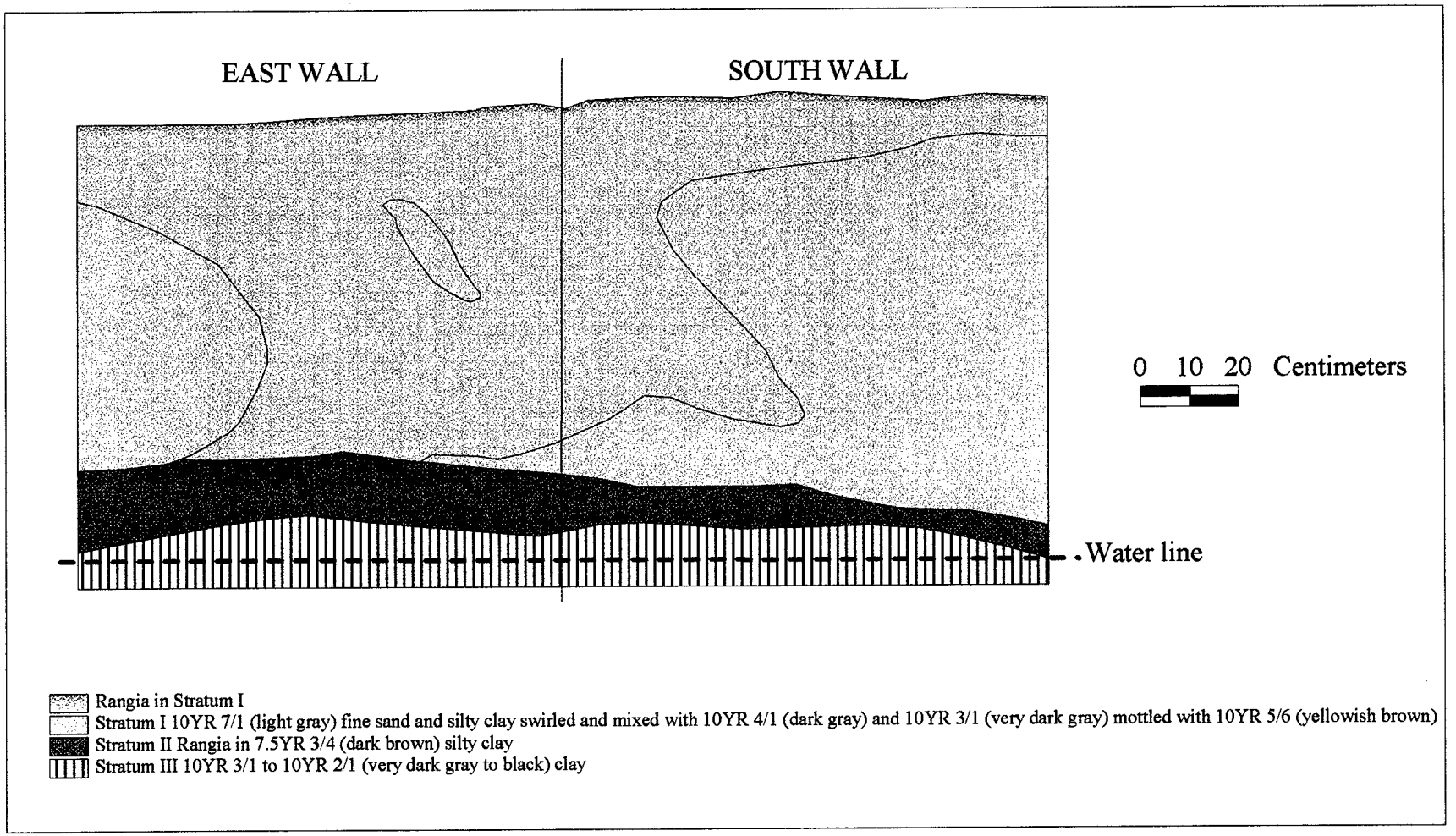


Figure 11. East and south wall profiles from excavation unit.

Table 4. Stratigraphy Recorded in Auger Tests at 16LF261.

| Test # | Stratigraphy | Remarks |
|---|---|---|
| | | Scattered *Rangia* shell on the surface along entire transect |
| 1 | Stratum I - very dark grayish brown (10YR 3/2) silty loam (0-10 cm); Stratum II - very dark grayish brown (10YR 3/2) silty loam with some shell, mottled with dark yellowish brown (10YR 3/4), black (10YR 2/1), and pale yellow (5Y 8/4) silty clay (10-90 cm); Stratum III - wet, very dark gray (10YR 3/1) clay and sand with some *Rangia* shell (90-170 cm); Stratum IV - fluid, very dark gray (10YR 3/1) clay and sand (170-200 cm) | |
| 2 | Stratum I - very dark grayish brown (10YR 3/2) silty loam (0-10 cm); Stratum II - grayish brown (10YR 5/2) sand (10-20 cm); Stratum III - black (10YR 2/1) silty clay with some *Rangia* shell (20-60 cm); fluid below 60 cm | Dense shell was encountered at 60 cm, but soil matrix was too fluid to collect in auger. This is likely the dense shell referred to by CEI as probable intact midden. |
| 3 | Stratum I - very dark grayish brown (10YR 3/2) silty loam (0-12 cm); Stratum II - black (10YR 2/1) silty clay (12-30 cm); Stratum III - burned shell in clayey loam (30-45 cm) (redeposited midden); Stratum IV - mixed dark gray (10YR 4/1) and brown (10YR 5/3) silty clay loam (45-85 cm); Stratum V - dark grayish brown (10YR 4/2) silty clay with *Rangia* shell (85-110 cm) (possible midden); Stratum VI - very dark gray (10YR 3/1) semi-fluid clay with some shell hash (110-145 cm); fluid below 145 cm | It is possible that Stratum V represents midden, however it is not clear if it is *in situ*. |
| 4 | Stratum I - very dark grayish brown (10YR 3/2) silty loam (0-10 cm); Stratum II - black (10YR 2/1) silty clay (10-45 cm); Stratum III - dark gray (10YR 4/1) silty clay loam mixed with brown (10YR 5/3) (45-100); Stratum IV - very dark gray (10YR 3/1) semi-fluid clay (100-110 cm); fluid below 110 cm | |
| 5 | Stratum I - very dark grayish brown (10YR 3/2) silty loam mottled with light yellowish brown (2.5Y 6/3) and black (10YR 2/1) silty loam (0-30 cm); Stratum II - light yellowish brown (2.5Y 6/3) sandy silt loam mottled with black (10YR 2/1) (30-100 cm); Stratum III - dark grayish brown (10YR 4/2) silty clay mottled with light yellowish brown (2.5Y 6/3) and mixed with *Rangia* shell (100-200 cm); fluid below 145 cm | |
| 6 | Stratum I - very dark grayish brown (10YR 3/2) silty loam (0-15 cm); Stratum II - very dark gray (7.5YR 3/1) silty clay mottled with yellowish brown (10YR 5/4) (15-140 cm); Stratum III - dark greenish gray (Gley 1, 5G 4/1) wet silty clay (140-200 cm) | *Rangia* shell in the upper 30 cm. |
| 7 | Stratum I - dark grayish brown (2.5Y 4/2) silty loam (0-60 cm); Stratum II - very dark grayish brown (2.5Y 3/2) silty clay (60-180 cm); Stratum III - very dark grayish brown (2.5Y 3/2) peaty muck | |

Table 4. Stratigraphy Recorded in Auger Tests at 16LF261.

| Test # | Stratigraphy | Remarks |
|---|---|---|
| 8 | Stratum I - black (10YR 2/1) damp silty loam with very dark grayish brown (10YR 3/2) concretions (0-30 cm); Stratum II - semi-fluid, very dark gray (2.5Y 3/1) silty clay (30-80 cm); fluid below 80 cm | This test was approximately 10 m south of the end of the spoil ridge. No surface *Rangia* were observed. |
| 9 | Stratum I - black (10YR 2/1) damp silty loam with very dark grayish brown (10YR 3/2) concretions (0-30 cm); Stratum II - semi-fluid, very dark gray (2.5Y 3/1) silty clay (30-50 cm); fluid below 50 cm | No surface *Rangia* were observed. |
| 10 | Stratum I - black (10YR 2/1) damp silty loam with very dark grayish brown (10YR 3/2) concretions (0-30 cm); Stratum II - semi-fluid, very dark gray (2.5Y 3/1) silty clay (30-50 cm); fluid below 50 cm | No surface *Rangia* were observed. |
| 11 | Stratum I - very dark grayish brown (10YR 3/2) silty loam (0-12 cm); Stratum II - black (10YR 2/1) silty clay (12-30 cm); Stratum III - mixed dark gray (10YR 4/1) and brown (10YR 5/3) silty clay loam (30-70 cm); Stratum IV - dark grayish brown (10YR 4/2) silty clay with *Rangia* shell (70-110 cm) (possible midden); Stratum V - very dark gray (10YR 3/1) semi-fluid clay with some shell hash (110-130 cm); fluid below 130 cm | It is possible that Stratum IV represents midden, however it is not clear if it is *in situ*. |
| 12 | Stratum I - very dark grayish brown (10YR 3/2) silty loam (0-10 cm); Stratum II - black (10YR 2/1) silty clay (10-45 cm); Stratum III - mixed dark gray (10YR 4/1) and brown (10YR 5/3) silty clay loam (45-100); Stratum IV - very dark gray (10YR 3/1) semi-fluid clay (100-110 cm); fluid below 110 cm | |
| 13 | Stratum I - mixed very dark grayish brown (10YR 3/2) and light yellowish brown (2.5Y 6/3) silty loam (0-60 cm); Stratum II - light yellowish brown (2.5Y 6/3) sandy silt (60-100 cm); Stratum III - mixed light yellowish brown (2.5Y 6/3) sandy silt and black (10YR 2/1) heavy clay (100-200 cm) | |

Thirty-four prehistoric aboriginal sherds were collected from the shell beach along the shore of Bayou Perot (Table 5). Like their counterparts from 16JE19, all of the sherds except one were wave-washed. Thirty-two of the sherds were undecorated, while the remainder were decorated with a single incised line or punctates. Even though the interior and exterior surfaces were missing, the plain wares could be tentatively separated into two varieties. Twenty-one sherds were classified as Baytown Plain, *var. Addis*, while eight were classified as Baytown Plain, *var. Jean Lafitte*. The primary difference between the two types and three varieties is the noticeable sand content in *var. Jean Lafitte* (Giardino 1989:111; Phillips 1970:48-50; Williams and Brain 1983:92). The last plain sherd was a rather large rim sherd (Figure 12c). The rim was formed by simply folding over the clay and smoothing it. The paste was poorly fired and contained large to medium-sized clay particles. The core was obviously contorted with little or lamination present. These morphological characteristics fit the descriptive parameters defined for Tchefuncte Plain, *var. Tchefuncte* (Phillips 1970:163).

Table 5. Surface Collected Sherds from 16LF261.

| | |
|---|---|
| Undecorated: | |
| | |
| Baytown Plain, *var. Addis* | 21 |
| Baytown Plain, *var. Jean Lafitte* | 8 |
| Tchefuncte Plain, *var. Tchefuncte* | 1 |
| | |
| Decorated: | |
| | |
| Unclassified Incised | 1 |
| French Fork Incised, *var. unspecified* | 1 |
| Twin Lake Punctated, *var. Twin Lakes* | 1 |

Three decorated sherds were collected from 16JE261. One example was decorated with a single, wet-paste, incised line. Since the sherd was small and wave-washed it was placed in an unclassified incised category. A second example was decorated with narrow, closely spaced incised lines. Each incised line had a small, triangular punctate at the top of the line. The incised design fields were separated by what seems to be curvilinear areas that were not decorated (Figure 12b). The design is almost identical to a sherd determined to be French Fork Incised, *var. unspecified*, by Phillips (1970:344, Figure 128).

The last example in the decorated category was a rim sherd that contained two parallel lines of punctates. The punctates were long and wedge-shaped and formed a herringbone pattern. The punctates were placed just below the rim (Figure 12a). This form of decoration conforms to the description set forth for Twin Lake Punctated, *var. Twin Lakes* (Phillips 1970:166). This form of decoration at this site is very surprising, since it usually occurs either in the eastern Yazoo Basin or in the hills east of the basin in Mississippi (Phillips 1970:166; Williams and Brain 1983:205). It cannot be determined with any confidence if the vessel was produced at the site or was traded in.

The French Fork sherd could be from a Baytown or Coles Creek period occupation; however, the Tchefuncte Plain, *var. Tchefuncte*, and Twin Lake Punctated, *var. Twin Lakes*, are both typical of the Tchula period. This suggests that the landform on which 16LF261 is located is older than previously thought. Perrault and Pearson (1994:96) speculate that the site may be lo

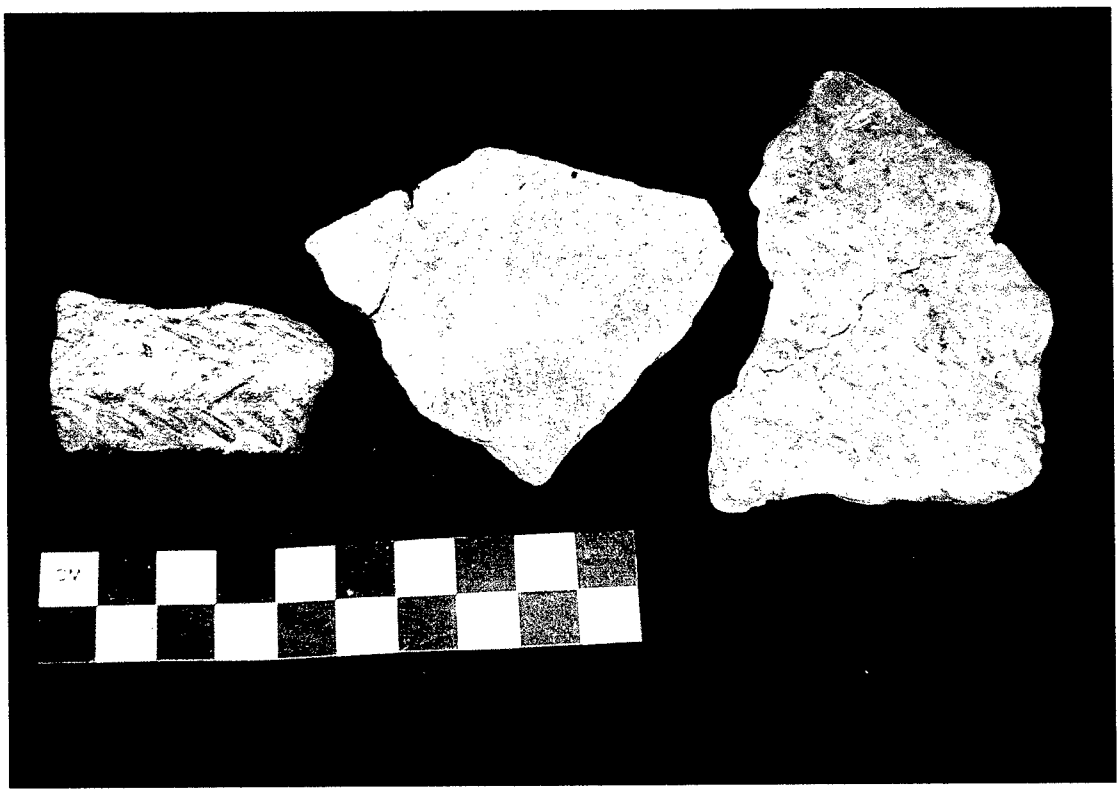

Figure 12. Photograph of sherds from 16LF261. From left to right Twin Lake Punctated, *var. Twin Lake*; French Fork Incised, *var. unspecified*; and Tchefuncte Plain, *var. Tchefuncte.*

cated on a north/south trending distributary now occupied by Bayou Perot or possibly on an east/west trending distributary extending from Bayou Lafourche.

Two fragments of animal bone were collected from the shell beach at 16LF261. One is a fused, proximal left radius from a deer (*Odocoileus virginianus*). The other is an unidentified large mammal (non-human) long bone fragment. Both elements exhibit very smoothed edges typical of water worn specimens. Neither element appears to have been worked.

The current investigations confirm the earlier conclusion that any intact deposits at 16FL261 occur within the northern portion of the site, while the southern portion exhibits only surface scatter along the beach (Perrault and Pearson 1994:96). The possible midden encountered in three auger tests at 16LF261 was not clearly *in situ* and may be spoil or wave-washed secondary deposits. All of the culture-bearing strata observed in the excavation unit were the result of redeposition. Given the disturbed nature of the stratigraphy observed at 16LF261, it is unlikely that the tested portion of the site has research potential. That part of 16LF261 that has been tested is ineligible for nomination to the NRHP. However, given the extent of the shell scatter and the number and types of sherds recovered in the general surface collection, it is very probable that intact deposits exist at 16LF261. The most likely location for these deposits is below the high spoil ridge in the northern portion of the site. The untested portion of 16LF261 may still have research potential, particularly concerning the geomorphic development of the region. Until the deposits underlying the spoil ridge can be tested (by power auger or backhoe), this portion of the site should be considered potentially eligible for nomination to the NRHP.

# CHAPTER 7
# CONCLUSIONS AND RECOMMENDATIONS

This report has presented the results of Phase II investigations undertaken at two archeological sites in Lafourche Parish. The sites, 16LF19 and 16LF261, are shell middens located within the Barataria Land Bridge project area as defined by NRCS. This project is one of many proposed to reduce marsh erosion in the region.

The horizontal and vertical extents of the sites were determined using shovel and auger tests, surface examination, and at 16LF261, the excavation of a test unit. The sites were mapped, photographed, and demarcated with a permanent datum and PVC pipe. In addition, they were evaluated according to NRHP criteria.

## 16LF19

Site 16LF19 was originally recorded by McIntire in the 1950s. In 1995, ESI surveyed and mapped the site. The current investigations found that erosion has reduced the north/south extent of the site since the 1995 fieldwork. Although erosion is continuing to impact the site, intact midden was encountered in nine of the 15 auger tests excavated at the site. Thus the site appears to maintain a high degree of integrity. Data addressing prehistoric subsistence and regional settlement could be extracted from 16LF19. Specifically, 16LF19 could yield data to speak to the themes of "Prehistoric Adaptation to the Changing Deltas" and "Prehistoric Coastal Subsistence and Settlement Patterns" as defined by Smith et al. (1983:95-97). Therefore, 16LF19 is eligible for nomination to the National Register of Historic Places. ESI recommends that the site be avoided during construction activities. Any negative impacts to the site will have to be mitigated.

ESI recommends protecting the site during construction. To this end, Rhonda Smith (ESI) met with Joe Conti and Dale Garber (Natural and Cultural Resource Conservation Service) to determine construction boundaries around the site. GPS points were taken for datum and the east and west horizontal limits of the site. Because much of the site appears to lie in Little Lake, the southern horizontal limits of the site are estimated to extend approximately 35-40 m south of datum (Figure 4). A buffer zone of was established to protect the site (Figure 13). No negative impacts will occur to the site or the site buffer zone.

## 16LF261

Site 16LF261 was recorded by Perrault and Pearson in 1994. At that time, planned construction did not threaten the site. The current investigations confirmed that the northern portion of the site is more intact than the southern portion. However, the possible midden encountered during fieldwork does not appear to possess any real integrity. Most of the site appears to consist of dredge spoil and/or wave-washed redeposited midden. Water worn prehistoric sherds and faunal material were collected from the shell beach at the site. Based on the limited extent and questionable nature of the possible midden, the tested portion of 16LF261 is ineligible for nomination to the NRHP. Because of the likelihood for intact midden below the high spoil ridge at 16LF261, untested portions of 16LF261 may yield data contributing to our understanding of the geomorphologic development of the region. Therefore, untested portions of 16LF261 are potentially eligible pending further investigations. Construction activities in the area will be to the east of the site, within Bayou Perot, and will not disturb the spoil bank at 16LF261 (Joe Conti and Dale Garber, personal communication 2001).

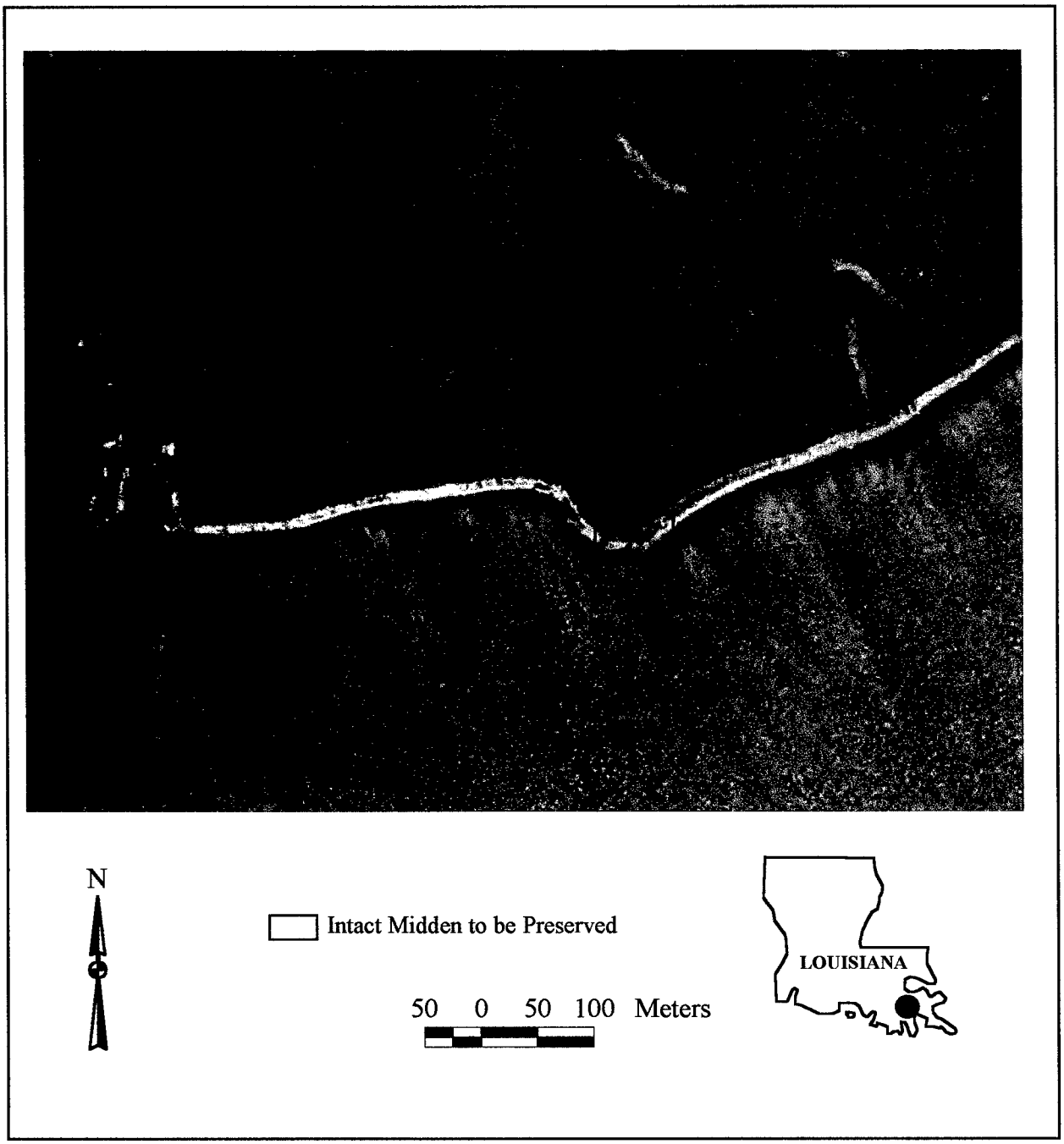


Figure 13. Plan view of site 16LF19 showing area of intact midden to be preserved.

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